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EARLY FORTIFICATION DITCHES AT ILE-AUX-NOIX, QUEBEC

ROGER T. GRANGE, JR.

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Early Fortification Ditches at Ile-aux-Noix, Quebec

by Roger T. Grange, Jr.

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Abstract

This report describes the 1966 excavations in early French and British fortification ditches at Fort Lennox National Historic Park, Saint-Paul-de-l'Ile-aux-Noix, Quebec. These fortifications were built in 1759 and used until 1819 when they were destroyed to make way for Fort Lennox. Associated artifacts recovered from the ditches and their fill deposits are analysed to provide archaeological dating and to correlate the earthworks with historical maps and other documentation. Ceramic formula dating is utilized in an effort to date the strata in the ditch fill deposits. The location of some early French features on the island is established through archaeological data.

Submitted for publication, 1974,
by Roger T. Grange, Jr.
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Abrégé

Le présent rapport porte sur les fouilles archéologiques réalisées au cours de l'été 1966 au parc historique national du fort Lennox, dans l'île aux Noix. Situé au nord du lac Champlain dans la rivière Richelieu, à Saint-Paul-de-l'Île-aux-Noix (Québec), le parc historique a joué un rôle militaire important de 1759 à 1870 en raison de sa situation stratégique.

L'île a tour à tour été occupée par des troupes françaises, américaines et britanniques. Les premières fortifications furent d'abord modifiées par les Britanniques, puis détruites et remplacées par l'actuel fort Lennox, lequel constitue maintenant un lieu historique national. Plusieurs groupes d'archéologues ont travaillé au fort Lennox, y découvrant de nombreuses données visant l'aménagement et l'interprétation du lieu. Le présent rapport relate les fouilles entreprises dans les fossés des fortifications originales afin d'identifier les vestiges des premiers ouvrages militaires français de l'île.

L'histoire de l'île aux Noix peut se diviser en quatre périodes principales. La première commença en 1759, lorsque les Français armèrent l'île. Assiégés par les Britanniques les Français durent partir et, en 1761, les vainqueurs quittaient aussi les lieux.

Les troupes américaines utilisèrent l'île durant une courte période, en 1775, laquelle fut suivie, à partir de 1776, d'une occupation britannique prolongée. C'est à cette époque que les Anglais construisirent leur premier fort,

empruntant seulement une petite partie des fortifications françaises originales. Les fouilles archéologiques dont il est question dans le présent rapport visaient l'exploration de ce système franco-britannique. Les Anglais ajoutèrent des redoutes au cours de cette deuxième période d'occupation, qui se termina en 1809 par un nouveau retrait des troupes.

L'année 1812 sonna le début de la troisième période d'occupation de l'île. Les Britanniques revinrent sur les lieux, rebâtirent le vieux fort, puis établirent un chantier de construction navale. Entre 1819 et 1828, les premières fortifications furent remplacées par l'actuel fort Lennox. Les activités militaires se poursuivirent avec une moindre intensité jusqu'en 1870, année de fermeture des établissements. La quatrième période d'activité se réfère à l'utilisation non militaire de l'île.

L'analyse des cartes a montré que les Britanniques avaient utilisé une partie du réseau des fortifications françaises au moment de la construction de leur premier fort. Il semblait donc opportun d'explorer les fossés originaux pour vérifier cette théorie. Les archéologues ont aussi tenté de situer les redoubtes françaises, mais sans résultats concluants. Les recherches ont confirmé la concordance entre les plans britanniques et les plans français, rendant possibles des fouilles supplémentaires du côté ouest de l'île. Ces fouilles ont permis de découvrir une partie de la redoute britannique de ce côté et une courte section intacte du fossé protégeant les premières fortifications.

Dans un fossé réutilisé par les Britanniques, les archéologues ont trouvé un remblayage de terre rempli de vestiges datant de la période de construction du fort Lennox (1819-1828). Ils ont aussi découvert une couche compacte de billes de bois ayant servi à remblayer un fossé. Sous cette couche se trouvait le fond original du fossé. Des structures de bois datant des premières fortifications étaient encore en place. Celles-ci étaient vraisemblablement d'origine britannique; toutefois, les archéologues ont conclu que le fossé et les fascines dataient probablement de la période française.

L'interprétation historique des niveaux stratigraphiques fut corroborée par la comparaison des modèles archéologiques de chronologie stratigraphique aux modèles historiques. La datation fut établie selon les techniques du terminus post quem, de l'approximation évidente et de l'analyse du contenu céramique. La datation archéologique est venue corroborer les interprétations historiques fondamentales, mais elle a aussi indiqué que certaines couches de remblayage avaient reçu des dépôts additionnels après la construction de 1819-1828. Les plus récents artefacts que contiennent les couches de remblayage résultent probablement de l'addition de matériel à mesure que les dépôts se stabilisaient et s'érodaient sous l'effet du piétinement. Les résultats de la datation ont souligné l'efficacité de l'approximation évidente et de l'analyse du contenu céramique.

L'objectif des fouilles entreprises durant l'été 1966 était de situer en partie le réseau des fortifications françaises. Ce fut fait aux endroits réutilisés par les Britanniques. De plus, les archéologues ont identifié une section du fossé original français ceinturant les fortifications en comparant leurs résultats avec les plans originaux et en analysant le contenu céramique du terrain. Bien qu'ils n'aient mis au jour qu'une courte section du fossé, il est d'ores et déjà possible d'imaginer son tracé complet du côté ouest de l'île.

Acknowledgements

Many people have contributed to the work reported here. Mr. John Rick, now Chief of the Research Division, National Historic Parks and Sites Branch, Parks Canada, arranged for me to conduct the excavations and provided administrative support. The field party included two field assistants, Mr. John Senulis and M. Marcel Plouffe, and two student assistants, Mme Michelene Dumont and M. Michel Lessard. They were directly responsible for the excavation of particular operations during the season. Joan Thompson supervised the field laboratory operations while my wife Jane, with the assistance of Mrs. Senulis, was responsible for keeping the resident field party well fed.

Members of the expedition lived at Fort Lennox, sharing quarters with the park staff whose help was of great assistance. M. Armand Mainguy, Superintendent of Fort Lennox National Historic Park, and his staff rendered countless services which contributed to the success of the expedition.

Local merchants in Saint-Paul-de-l'Ile-aux-Noix and Saint-Jean were also of assistance. The field crew consisted of 25 local men. They did the shovel and trowel work, washed and catalogued specimens, put up with my halting pidgin French and made a successful expedition possible.

Mr. Michael Ashworth, then of the National Historic Sites Service archaeological staff, had worked at Fort Lennox in 1965. He was of great aid throughout the 1966 season and at the start of the work was at the site to assist in correlating old and new excavations.

More recently, during the analysis of the specimens recovered during the fieldwork, Mr. Jervis Swannack, Assistant Chief (Archaeology) Research Division, Iain Walker, Olive Jones, Jean-Pierre Cloutier, Dorothy Griffiths, DiAnn Herst and several other staff members have given generously of their time and effort on behalf of this project. I am especially indebted to David Lee, historian with the Research Division, for his aid on historical research problems and for his historical analysis of the site upon which I have drawn heavily.

I am grateful to Dr. Robert Fuson and Dr. John Stafford of the Department of Geography, University of South Florida, for making available specialized map drawing equipment. Dr. Bill Kennedy, formerly of the U.S.F. Computer Research Center, aided in programming for the calculation of some data while I was using material from the site in a classroom laboratory exercise. Dr. Gilbert Kushner, Chairman of the Department of Anthropology, and my other colleagues have been consistently supportive of my research efforts. Mrs. Mildred Seabrook has typed the manuscript from oft-corrected drafts.

Those who have helped me but are not listed by name are none the less recipients of my gratitude. I am pleased to thank all who have contributed to this project.

Introduction

Archaeological excavations conducted at Fort Lennox National Historic Park on Ile-aux-Noix during the summer of 1966 are the subject of this report. The island is located in the Richelieu River just north of Lake Champlain in Saint-Paul-de-l'Ile-aux-Noix, Quebec (Fig. 1). Ile-aux-Noix was a natural feature selected to play a role in various military operations from 1759 to 1870 because the potential of the river as an invasion route was long recognized. The strategic location of the island made its selection as a military strong point almost inevitable despite defects in its tactical position (Lee 1965a: 1, 3-4, 19, 24, 28, 37).

French, American and British troops occupied and fortified the island. The fortifications culminated in the present Fort Lennox, the final British fort now preserved as a national historic site. Several archaeological expeditions have worked at Fort Lennox in recent years acquiring data for the continued development and interpretation of the site by the National Historic Parks and Sites Branch (Rick 1970: 28).

Work conducted in 1966 had several objectives but the primary goal was a search for remnants of the French period. These initial fortifications had long been obliterated by the first British fort, the navy dockyard and finally by Fort Lennox itself. The aim was to locate tangible remains of the early French works which might be interpreted to depict that significant part of the island's history.

The French works consisted of the main fortification ditches and detached redoubts, none of which was marked by any obvious surface evidence. Several areas were tested or more extensively excavated during the summer in the search for relatively undisturbed remains of the old French works. None of the redoubts was found and only at the end of the field season was a small undisturbed segment of an original French fortification ditch located. Most of the old French lines lie beneath the present Fort Lennox or have been destroyed by it. However, some sections of the ditches of the first British fort remain and were excavated; these early fortification ditches can be shown to have been part of the original French defences. Thus the expedition was successful in exposing some elements of the original French works. The location of other remains can be predicted and plans for future field research and interpretative work on this period of the island's history can be made from this base.

The 1966 fieldwork also continued the excavation of blockhouse and redoubt features begun in the 1965 season. Further, the test excavations seeking evidence of the former French redoubts revealed additional structures of significance despite their later date. The results of these excavations will be the subject of other reports.

The archaeological evidence for the early fortification ditches is described and correlated with historical data relevant to the problem of identifying French and British features or periods of construction. The features alone provide an insufficient basis for full historical identification and the artifact contents of the various stratified deposits can be used to help resolve this difficulty by dating the ditch fill. Emphasis in the artifact analysis is therefore on chronology, not only because this is most germaine to the problem at hand, but also because of the nature of the deposits themselves. Most of the strata encountered were deliberately placed in the fortification ditches at various times for the purpose of filling them. These fill deposits were drawn from numerous sources, mixing materials from different periods of former occupation and from functionally different structures within a single zone of fill. Unlike the artifacts associated with a living floor of a distinct building which aid cultural interpretations, the fill artifacts are primarily of value in dating the structural events and reveal little of life at Fort Lennox which cannot be better illustrated from other excavations.

Thus the primary objectives of this report are descriptive and chronological rather than processual. The study employs some recently developed methods of ceramic analysis and from that point of view makes some contribution to the problems of general historical archaeology as well as attacking a specific objective at Fort Lennox National Historic Park.

History of the Site

An historical review of the role of Ile-aux-Noix and Fort Lennox has been prepared by Lee (1965a) along with a cumulative map summary (Lee 1966) for the use of archaeological field parties working at the site. The following historical résumé is based on those reports and is focused on events related to features excavated in this particular archaeological project.

There were three major periods of military occupation at Ile-aux-Noix (Lee 1965a: iii). The first was the initial French and British period of 1759 to 1761. The second began with a brief American encampment and continued with the development of the first British fort in the period 1775 to 1809. The last major military period saw the development of a naval shipyard beginning in 1812, the construction of Fort Lennox in the 1820s and final abandonment in 1870. A fourth period after 1870 saw the site become a national historic park.

These periods and their subdivisions have been used in the comparison of historical-stratigraphic models and archaeological-ceramic models in the analysis of deposits excavated at the site (Grange 1973a: 104-24). The main periods and subdivisions are summarized in Table 1. The brief history of the site outlines the events affecting the fortification ditches in terms of these major phases.

Table 1. Summary of Major Occupation Periods

Period	Chronology	Events
I	1759-61	French construction and abandonment. British occupation and abandonment.
	1761-75	Abandoned
II	1775-76	American occupation and abandonment.
	1776-1809	British occupation and construction of first fort and redoubts.
	1809-12	Abandoned
III	1812-34	Naval Dockyard.
	1819-70	Fort Lennox. Removal of old British fort. Final military abandonment.
IV	1870-present	Post-military modern period and park development.

Period I

French fortification of Ile-aux-Noix began during the Seven Years' War (Lee 1965a: 1) when the need to fortify the river route to Montreal became apparent (Fig. 2). The tree-covered island in the Richelieu River was finally selected despite its defects as a defensible point, and clearing and construction began in May of 1759. First intended for about 500 men, the fortifications were extended when 3,000 men arrived in August. Bourlamaque described the immense fortifications as poorly made. They included a palisade-dam which raised the water level in Lake Champlain as well as around the island in the Richelieu River. The fort consisted of a "star-shaped" stockade, earthworks and wooden buildings with earthen chimneys. Initial construction was not completed until November and work continued in the spring with draining the island, deepening the ditches and improving the banquettes. The depth of the trenches was reported to be 6 feet. The fort did not include casemates (Lee 1965a).

Maps give an imperfect idea of the nature of the French lines. There are at least five plans which illustrate the French works on the island. No two of these plans are alike in detail although some general similarities exist. Four of the available plans of the earliest fortifications show only the French lines. The fifth illustrates both the older French system and the first British fort of 1780 (Lee 1965a: App. II, Map 2).

Details traced from these five plans of the French fortifications have been reduced to the same relative size and placed in the same orientation for comparative purposes in Figure 3.

A plan from an unidentified American source (Lee 1965b: Map 1; see Fig. 3a) shows more space between the main demi-bastions than appears on other plans. It also depicts ditch lines around the perimeter of the north half of the island, a feature not shown on other maps.

One plan (Fig. 3b) illustrates a star-shaped inner fort as described in documentary sources but differs in other details and distorts the shape of the island (Lee 1965b: Map 2). No other plan shows such a well-defined star fort, but all depict a central fortification as well as ditches around the perimeter of the south half of the island. This plan illustrates a large structure outside the fortifications, not shown on any of the other plans, and fails to depict the blockhouses or redoubts seen in other cases.

Bourlamaque's map (Lee 1965b: Map 3; see Fig. 3c) distorts the shape of the island to some degree and shows the demi-bastions flanking the entrance of the fort to be in a location north of the narrowest part of the island. Other historical plans as well as archaeological evidence indicate that these features were south of that narrow neck. This plan also illustrates a wet moat connected to the river, a detail sometimes evaluated as a doubtful feature (Lee 1965b: Map 3). The plan shows redoubts on nearby shores as well as three redoubts on Ile-aux-Noix. There is a "blockhous en bois" at the extreme northern end of the island. The redoubts, St. Antoine and St. Louis, on the west and east flanks of the island respectively, are shown most clearly on the Bourlamaque map. Similar structures are seen on the Johnston plan (Fig. 3_d_), the American plan (Fig. 3_a_) and the 1780 British map (Fig. 3_e_) in approximately the same locations relative to the main fort. The original Bourlamaque plan bears notes about the siege and withdrawal not reproduced in this figure. An especially interesting feature of this plan is the rows of dots shown in the fortification ditches, probably a representation of timbers or pickets in the fortifications. Archaeological work revealed probable ditch bottom pickets.

The siege of the island is also shown in the Johnston plan (Lee 1965a: Map 1 and Lee 1965b: Map 4; _see_ Fig. 3_d_). This map is generally similar to the Bourlamaque plan although its details are vastly different where the size and shape of the fortifications are concerned. The "blockhous en bois" is also shown on this plan.

The first British fort is shown on the fifth plan (Lee 1965: Map 2; _see_ Figs. 3_e_ and 4). This fort was erected by Riedesel's troops. The plan, which dates about 1780, is particularly important because it also shows traces of the old French fortification lines. It is this map which correlates the first British fort with the re-use of the northeastern demi-bastion of the original French fortifications. The relationship between the traces of the old French lines, the first British fort, subsequent plans of the first British fort and physiographic features found on the island can be matched with the archaeological evidence of this structure (Fig. 5). The shape and general location of the British fort shown on the 1780 plan matches both other historical plans and the archaeological evidence of the British fort. Study of the 1780 plan shows clearly that the first British fort was in the re-used northeast bastion of the old French fort, a fact supported by historical references (Lee 1965a: 25). Since the converted bastion is shown correctly on the 1780 plan, it can be argued that the other details, including the depiction of the old French lines shown on the map, are likely to be accurate as well. The discovery of a remnant of the old French perimeter ditch in an excavation on the west side of the island at a point which also correlates with the French line shown on the 1780 map helps to confirm the hypothesis that this is the most accurate map of the original French fort (Grange 1967: 34).

The long anticipated British attack on the French post on Ile-aux-Noix began on 16 August 1760 with the establishment of batteries on the shore adjacent to the island (Lee 1965a: 14). By 25 August the French had been surrounded on three sides and they abandoned the island on the twenty-seventh leaving much equipment behind. Ile-aux-Noix formally became British with the surrender of New France on 8 September (Lee 1965a: 16-8). Following the victory, General Amherst directed that the equipment be removed and the fortifications on the island destroyed, action supposedly accomplished during the following winter (Lee 1965a: 18). Thus, the first occupation phase consisted of French construction, siege, British occupation and finally abandonment, all emcompased in the brief period between 1759 and 1761.

Period II

Both the Americans and the British used the island during the American Revolution 14 years later. The Americans built little, if anything, during their brief occupation (Lambart 1963: 4). In September 1775 they established a base on the island during their attack on Montreal, then encamped there again during their retreat. Suffering many losses due to disease, they buried their dead on Ile-aux-Noix and left the island to the British in July 1776 (Lee 1965a: 20-3).

The major part of occupation period II began with the arrival of British troops in 1776. The island was re-cleared and adaptation of the former French trenches began. This apparent re-use (Lee 1965a: 24-5) of the supposedly destroyed French works (Lee 1965a: 18) indicates that the earlier destruction must not have been complete. Blockhouses were constructed (Lee 1966: No. 2) and a portion of the original French fortification was enclosed to form the first British fort (Lee 1965a: 25, Map 2). The remaining French ditches were filled. The relationship of the first British fort and the original French lines has already been discussed and illustrated (see Figs. 3e and 4).

Construction of three masonry and timber redoubts was begun in 1782 and nearly completed by 1783 (Lambart 1963: 5-6; Lee 1965a: 25; see Fig. 6 - only two redoubts are shown; one was later destroyed and replaced by the dock yard). Earthworks connecting the three redoubts proposed during this period were never built. These fortifications were poorly maintained and the island was again abandoned in 1809 (Lee 1965a: 27).

Period III

Ile-aux-Noix was abandoned from 1809 until 1812 when war with the United States again brought the strategic location of the island into play. Troops from the island captured two American ships during a nearby engagement, and in 1813 it was decided to establish a shipyard for the construction of naval vessels on the island. The northeast redoubt, termed the right redoubt or redoubt number 3 on various plans, was leveled to make room for the naval facility (see Fig. 6). The British fort and the other two redoubts remained in use while naval barracks, storehouses and a hospital were added. A brig was launched, construction of the *Confiance* was begun in 1814, and ensuing naval actions took place on Lake Champlain (Lee 1965a: 28-36).

Following the War of 1812, it was decided to further improve the defences of the island and plans for Fort Lennox were begun (Lee 1965a: 36-7), partly in response to the construction of the American "Fort Blunder" (Fort Montgomery) which proved to be north of the boundary line.

The construction of Fort Lennox was started in 1819 and completed by 1828 (Lee 1965a: 38). The south end of the island was again selected as the site for this major fortification. Building Fort Lennox required the razing of the first British fort and its two remaining redoubts as shown on an 1818 map (Lee 1965a: Map 4; see Fig. 7) and on an 1823 plan (Lee 1965a: Map 5). The proposed horn work to protect the navy yard shown on that plan was never constructed although a deep excavated feature on the island sometimes referred to as "the drydock" is probably a small section of the moat of the intended defence line (Grange 1967: 32-3).

The naval station closed in 1834. The fort was garrisoned and used as a prison in 1837-38, but by 1847 was in poor condition and served by a single company. The reduced garrison included pensioners in 1857, and in 1858 the island was used as a reformatory. During the American Civil War the fort was reoccupied and repaired for military purposes and then finally abandoned in 1870 (Lee 1965a: 40-1).

Period IV

The final period follows the abandonment of the fort in 1870 and ultimately saw the development of Fort Lennox National Historic Park in 1921. Only the most recent fort remains as a visible symbol of past events at Ile-aux-Noix. Archaeological work has been directed at recovering data which will increase our knowledge of the site and enhance its interpretation.

Summary: Hypotheses and Archaeological Tests

A review of the history of the site was carried on during the field season as part of the planning necessary to conduct the search for tangible remains of the French period at the site. Several hypotheses concerning the possible locations of French features were generated and excavations were conducted to test these historical inferences. Several potential locations for the detached French redoubts and the "blockhous en bois," for example, were examined through test excavations with negative results.

As outlined above, one hypothesis was that the first British fort re-used part of the original French demi-bastion. If this were true, the original French feature survived in use, although in modified form, until 1819 when Fort Lennox itself was built. Confirmation of this map analysis hypothesis became one of the major objectives of the 1966 field season. Remnants of this early fortification ditch were found beneath the Fort Lennox glacis. The correlation of the archaeological feature with the historical data strengthened the hypothesis (Grange 1967: 25). Its final test rests upon the analysis of the specimens recovered and is the subject of part of this report.

A closely related hypothesis was that part of the French ditch around the perimeter of the island might be found in association with the remains of the No. 2 redoubt on the west side of the island. The archaeological excavations testing this prediction resulted in the discovery of a small section of an early ditch, probably of the French period (Grange 1967: 31). Again the final test of the hypothesis rests upon the results of specimen analysis.

Most of the old French fortifications lie beneath the massive ramparts of Fort Lennox or were cut away in the excavation of its water-filled moat. Possible locations of former French features can be predicted if the correlation of the map data and the archaeological evidence discussed above can be shown to be correct. On this basis, further suggestions related to the potential excavation of French features will later be set forth.

The Excavations

Description of the Site

Ile-aux-Noix is a long, low, irregular 210-acre island in the Richelieu River (Fig. 8). The south end is rounded while at the northwest a marshy extension protrudes into the river. The west side has a gentle indentation near the centre giving the island a narrow waisted or crescent-like outline (Figs. 5, 6, 7).

The southern end of the island, that selected for most of the fortifications, is the highest; its elevation is emphasized by the glacis and ramparts of Fort Lennox. The extreme southern edge of the island is low and swampy in places, particularly when the river is high.

The central part of the island is nearly level with only a few mounds and depressions which mark former building sites, drainage ditches and a slightly elevated central service road. Numerous former buildings stood in this area and two cemeteries remain.

The northern end of the island is lower and swampy. An 1809 plan (Canada. Public Archives [hereafter cited as PAC] H4/350-1809) includes the notation "overflowed in the spring" on the north half of the island, an obvious consideration in the selection of building sites. There may have been a French "blockhous en bois" near the northern end of the island but few structures were placed in that area. Defence was oriented to meet attack from the south.

When the island was first occupied, it was covered with large trees, most of which were utilized in the construction of the fortifications (Lee 1965a: 24-5). The name, Ile-aux-Noix, refers to the walnut trees which once grew on the island. Hemlock and birch were identified species recovered from the ditches. Today the island is largely barren except for small trees at the northern end and some very large cottonwood trees which have grown upon the fort ramparts and along the water's edge.

Methods

The excavations were carried out by a crew of 25. The director of the field expedition was aided by two field assistants and two student assistant trainees. As training of the students progressed, they were assigned operations to excavate, thus enabling simultaneous work in several parts of the island. Another assistant supervised laboratory operations.

All of the excavations were accomplished by hand labour using standard archaeological field equipment. A transit was used for mapping and surveying while the photographic record was made with a variety of 35-mm and 2-1/4 in. by 2-1/4 in. cameras. Scale plan and section drawings were made of all excavations. Each assistant as well as the project director kept a daily journal and other appropriate notes.

All excavations were tied into the grid system established for the site during previous excavations. Grid north was toward the northeast and was so aligned to permit the north-south base line to run longitudinally down the centre of the island. Individual excavation operations were oriented to expose features to best advantage.

All notes employed the operation, sub-operation and lot code devised for the National Historic Parks and Sites Branch archaeology projects, and numbers were assigned in the previously established sequence for the site. In the case of Fort Lennox, the site number is 5 and the province letter is G. Operations are numbered, sub-operations are lettered and lot units numbered forming a typical code such as 5G44A1 for a specific specimen recovery unit.

Several historical plans, reports from previous field seasons, air photos and other sources were available during the field work. The selection of areas to excavate was made in accordance with the primary objective of the expedition, the location of undisturbed French structures at the site.

Historical hypotheses were utilized in determining potential excavation sites. Along with such map data, some surface evidence such as mounds or depressions was available as were the results of geohm resistivity surveys made in previous years and during the field season.

In general, the site was easy to excavate although several operations reached depths where the water table became a limiting factor. Fortunately it was relatively dry and the river was low; many of the excavations would have been impossible in a wet year. The height of the water table accounted for good preservation of some timbers. Occupational strata were readily visible and distinguished from subsoil. Excavations were based on natural or cultural strata.

Fifteen different operations were excavated during the field season but only five of these were located in the fortification works which are the subject of this report. One sub-operation excavated during the previous year is also included in the analysis. Additionally, some work done in 1967 by Korvemaker appears to have a relationship to the original French features and will therefore be discussed.

The Operations

The following list identifies the specific operations with which this report is concerned. Detailed descriptions of each excavation will follow. (See Figure 9 (site map) for locations.)

5G35M	This operation was excavated by Mike Ashworth during the 1965 season at the site when buildings within the first British fort were exposed. One trench (5G35M1) sectioned the fortification ditch on the east side of the fort.
5G44	This operation cross-sectioned the ditch of the north face of the first British fort near its northeast salient. The ditch was exposed in the south end of the operation while the northern part of the operation tested a large geohm anomaly and revealed part of the remains of a small structure. The anomaly proved to be the old glacis. The structure will be described in another report.
5G45	During the summer some improvements were planned to the ramp approach of the public dock on the east side of the island which would have disturbed the east flank of the first British fort ditch; archaeological salvage was carried out prior to the improvements.
5G48	After the ditch had been identified in operation 44, surface depressions in the vicinity could easily be related to the line of the first British fortification, also thought to be part of the original French ditch. Operation 5G48 was designed to section the north face and the shoulder angle at the west flank of the ditch.
5G49	This operation was on the west side of the island in the narrow area between the shore and the moat of Fort Lennox. It was designed to section a

surface depression thought to be part of the ditch of redoubt number 2 of the first British fort. The excavation was designed to test the hypothesis that the redoubt had made use of old French ditch lines in that area.

5G57 This operation was in the area of the ditch depression associated with the first British fort. It was designed to test an area thought to be part of the salient on the west side of the British fortification.

5G60 During the 1967 season Frank Korvemaker carried out some excavations in the vicinity of the north ravelin and west of 5G57. The timber features encountered at that location must be remnants of the original French curtain if the identification hypothesis advanced in the present report is correct. Therefore, these features will be discussed. (See Fig. 44.)

5G63 Korvemaker also worked inside Fort Lennox and exposed some structures which may be related to the early French fort. These, too, will be discussed but not reported in detail. (See Fig. 44.)

The East Flank of the First British Fort

Two trenches sectioned parts of the east flank ditch of the first British fort (5G35M and 5G45A). The first of these was excavated by Ashworth (1966: 2-14). This sub-operation was a 3-ft. by 10-ft. trench which sectioned the west side of the ditch but did not completely expose its eastern limits. Ashworth's profile drawing (see Fig. 10) clearly shows the ditch limits, lenses of fill within the ditch and a layer of logs in the ditch fill at the bottom of the excavation. Ashworth did not remove the log fill in his excavations. (When this was done on the north face [5G44] of the feature, well-preserved structural elements of the ditch defences were found.)

Ashworth's profile also shows some level bedded deposits on the west side of the ditch (Fig. 10) which are remnants of the former rampart (Ashworth 1966: 2-14). As he noted, earth from the ramparts was undoubtedly used in the filling of the ditch during the construction of Fort Lennox. At other locations where the trench surrounding the first British fort was excavated, there were few if any traces of the earthen rampart structure. They are preserved in the profile of this operation only because it is located high on the glacis of Fort Lennox where less of the former structure had to be removed to form the new fortification slope.

More thorough excavations in this area could be expected to provide additional information about the original British fortifications. Furthermore, such work might provide a larger sample of artifacts. Ashworth recovered but few specimens, apparently from the ditch fill zone, although stratigraphic control was not precise. Artifacts were not recovered from the rampart deposit levels or from the unexcavated bottom of the ditch below the logs. There are, therefore, no specimens from this operation which could be used to identify the period of construction of the ditch or rampart or to distinguish between the French and British phases thought to be represented by this ditch line.

A second excavation in the east flank of the fortification was a narrow trench excavated as a salvage operation (5G45) in connection with improvements in the area of the modern public dock. The work was done in haste prior to the placement of gravel fill and concrete to form a new dock ramp. The trench was approximately 17 ft. long and 3 ft. wide. A timber was found in the bottom of the excavation. It was set as a sloping picket similar to ones found in the north face excavation (Fig. 11). The limits of the fortification ditch were seen in profile and mottled fill was found within the ditch. These features are clearly extensions of those found in adjacent excavations. The excavation reached a maximum depth of 4.5 ft. below the surface of the slightly mounded contour in the area. Both water table difficulties and the impending work in the area terminated the excavation before the original ditch bottom was located.

The salient of the bastion can be projected from the lines of the ditches on the east flank and north face and must lie to the north of this operation. The proximity of the salient projection to the river and the elevation of features within the ditch suggest the strong possibility that the ditch may have been connected to the river when in use and the certainty that it was water-filled during the wet seasons.

The primary result of these two test excavations was the exposure of the lines of the east flank of the bastion of the first British fort. These excavations also confirm the identification of the surface depression as the old ditch. Here the ditch is now beneath the glacis of Fort Lennox. Presumably the glacis grade once obscured the former ditch but continued settlement of the ditch fill has caused it to reappear as a surface depression. Artifacts recovered from these excavations were limited in number and reflect the period of the filling of the ditch. These excavations did not yield definitive information concerning the possible French origin of the ditch.

The North Face of the First British Fort, Northeast Salient

A primary cross-section of the ditch along the north face of the first British fort was excavated near the north-east salient (5G44). The location of the old ditch line is marked by a broad surface depression on the relatively level surface just north of the glacis slope of Fort Lennox. The surface depression is very shallow and was partly obscured by a narrow drainage ditch following the same line. Public trails leading to the eastern boat dock and a public well also obscured the ditch. Once the feature was detected, it was relatively easy to trace by its surface indications (see Fig. 9, site plan).

The excavation of this operation began as a long broad trench to explore a large geohm anomaly recorded the previous season (Fig. 12). The anomaly proved to be an area of hard-packed undisturbed subsoil bounded by a drainage ditch and structural remains on the north and another drainage ditch within the limits of the old fortification ditch on the south. The structural remains found in this operation will be described in another report. The undisturbed area and the excavations at the southern end of this operation are the ones related to the early fortification system.

The excavations in the southern area exposed the ditch fill and were carried out following natural and cultural stratigraphic units. There were several distinct layers in the fill and Table 2 identifies the major stratigraphic units and the associated excavation lots. These lot units were used in varying appropriate combinations in the analysis of the specimens recovered from the ditch excavation (see also Fig. 13 profile).

Stratigraphy

The sod level is self-explanatory. Beneath the recent sod zone was a layer identified in Table 2 as topsoil above the ditch line. This zone of recent topsoil and mixed refuse represents deposits stratigraphically above the elevation at which the line of the old fortification ditch could be followed horizontally in the excavations (Fig. 14). This layer represents the latest layer of filling and is probably quite recent.

Within the line of the old ditch were deposits designated as late fill. These included mixed refuse-laden soil and an underlying layer of rocks (Fig. 15). The rock layer is most easily interpreted as a purposeful layer of fill placed to form a level. This could be associated with one of the roadways, shown on various plans, leading from the gate of Fort Lennox to the east side of the island near the modern dock.

Plans of 1852 (PAC) and 1863 (PAC, H1/350-1863) show a road along the foot of the glacis of Fort Lennox leading to the dock on the west side of the island. This road is on the line of the old fortifications. It is easy to visualize the need for continual filling in this area and the potential for the intrusion of later specimens into layers below. Many of the items found in the uppermost stratigraphic levels of ditch fill as well as in the levels may be related to the use of this area as a road and the consequent need to add additional fill to the ditch area as it settled or wore down through use.

Although some sub-units were utilized in the excavation of these deposits to follow internal stratigraphy in the zone, these levels can be taken together as a single major late ditch-fill unit.

Below the rock layer additional mixed soil and refuse was found filling the ditch. These deposits represent earlier ditch fill. Some lots were segregated following the internal stratigraphy of this zone. All of the lots in fill below the rocks and above the log deposit can be combined as a single major stratigraphic unit. As a preliminary interpretation these fills can be correlated with the 1819-28 period of construction of Fort Lennox.

When the first British fort was leveled to make way for the construction of Fort Lennox, several of the buildings inside the fort were removed and relocated in an area north of the present Fort Lennox sally port and adjacent to the navy yard. The return of buildings outside Fort Lennox dated 1842 identifies these structures (PAC, MG12, WO44, Vol. 590, Reel B-1436). In order to accomplish the removal of these buildings it would have been necessary to level the rampart and parapet and to fill in the ditch along the north side of the old fort (5G44-5G48 area).

The 1819 plan showing profiles of the progress made leveling the old fort and its redoubts and excavating the new Fort Lennox ditch does not include a cross-section showing this excavation on the north side of the old fort. All work completed at the time was to the south, east and west sides (PAC, MG12, WO55, Vol. 861, Reel B-2808). From this omission it is possible to infer that the removal of the barracks buildings was still not complete in 1819. These buildings are shown in their final locations near the navy yard on the 1823 plan (PAC, National Map Collection) so the move must have been completed before that date.

The north side of the ditch of the first British fort must have been filled sometime between 1819 and 1823 on the basis of these historical records. This date bracket can be used as a highly probable historical model for the interpretation of the stratigraphy in that area.

Beneath the refuse-filled zone below the rocks was a layer of closely packed well preserved hemlock logs (Tsuga sp.) (E. Perem, Forest Products Laboratory: pers. com.; see Fig. 16). These appear to have been purposely placed to fill the lower portion of the ditch, probably during the 1819-23 period. The logs are oriented along the long axis of the ditch. Toward the north end of the ditch an upward-curving line of wood chips adjoins the log layer (Fig. 13). This line indicates that fill of the ditch to the north (to the right on the profile drawing) must have been in place prior to the deposition of the chips and the logs. That prior filling was most likely a part of the same major effort to fill the ditch is likely, although there is a possibility that it occurred at a significantly earlier date.

Although the log fill clearly precedes the deposition of the mixed fill immediately above it, those fill levels below the rocks and the log fill may be combined as sub-units of a single major stratigraphic level probably associated with the 1819 leveling of the first British fort. The log layer was kept separate in much of the subsequent analysis on the chance that it could represent a significantly earlier event.

Beneath the log layer a clay zone was encountered in the bottom of the ditch. This grey clay is a natural deposit on the island. However, within the grey clay were found the remains of timber structures associated with the ditch, and the clay layer must represent the original ditch floor and occupational zone.

Included within the ditch bottom structures were some brush fascines excavated as separate stratigraphic units. The ditch bottom layer and the structures may date as early as the Period I French construction as well as to the Period II phase of the first British fort when the ditch was in use. These historical-stratigraphic correlations are tested by means of ceramic analysis in a later chapter of this report.

The excavation of the log level in the ditch was difficult. The logs were well preserved and water-logged. They were also of great length; one removed in a nearly complete state was about 18 ft. long before it was chopped during the excavations. Nearly all of the logs protruded deep into the trench profiles and could not be removed from the excavations without enlarging the trenches well beyond the capacity of the crew in the available time. In the central part of the trench many of the logs were removed by chopping through them. Sawing the water-logged wood was found to be impractical and the chopping was difficult and dangerous in the cramped quarters. The water table was also reached in the lower levels and this, coupled with periodic rains, made it impossible to remove all of the timber deposit from the central part of the fortification ditch. Thus the complete depth of the ditch at its centre line and the pofile of its bottom could not be determined (Fig. 13). Only in one part of the operation (5G44F) was the exposure sufficient to locate the probable floor of the ditch near its centre. At the deepest point excavated (94.81 ft. ASL), the centre of the ditch floor is about 7 ft. below the elevation of the surface and 6.5 ft. below the elevation of the top of the ditch as seen in profile. This compares with the historical reference in 1760 to a 6-ft. ditch depth (Lee 1965a: 12).

The width of the ditch is 42 ft. at the highest point where it could be seen in the trench profile; however, the width at a slightly lower elevation demarked by vertical ditch walls is only 35 ft. Allowing for erosion, reconstruction, leveling and collapse during filling, the 35-ft. width is probably a more reliable estimate of the original ditch width.

The bottom of the ditch, beneath the log layer, is a zone of grey clay, a natural layer carrying subsurface drainage toward the river. The clay quickly became wet and sticky, compounding the difficulty of excavation, especially near the centre of the ditch.

Ditch Features, North-South Section

On the north end the profile through the ditch shows that a low step was cut into the subsoil clay to form a covered way platform (Fig. 13). This, too, is a feature which may date to 1760 French construction.

The covered way is 3.5 ft. wide and rises 1.0 ft. above the dark clay ditch bottom layer. A thin zone of silt on top of the banquette is an obvious erosional deposit laid down prior to the filling of the ditch.

The covered way suggests that the ditch was a dry rather than a wet moat. During periods of low water level this could have been the case, as was evident during 1966 when the exposed step was above the mucky wet ditch bottom. However, in periods of high water, the ditch was probably a wet moat and under those conditions the covered way would not have served as a step. A similar step-like feature is shown along the bottom edges of the moat ditch for Fort Lennox in a profile drawing of the construction progress in 1819 (PAC, MG12, WO55, Vol. 861, Reel B-2808). Since that moat was intended to be water-filled, such a step could not have served as a covered way. Thus, by analogy, the step in the old ditch may not have been intended as a covered way if the ditch had been planned as a water-filled structure. The covered way function, however, is supported by a later British plan.

On the 1809 plan (PAC, H4/350-1809) the first British fort and its three redoubts are shown. The plan of the fort itself indicates the presence of structures inside the ramparts. Beyond the ramparts it is labeled "ditch," "cov way" and "glacis." The step feature may well represent the covered way indicated on the 1809 plan.

Just south of the step a dark clay layer, one of the ditch bottom zones, can be seen in the profile (Fig. 13). An angled stake may be seen embedded in the clay layer. The top of the stake had been cut off at the level of the clay zone, an indication that it had been chopped off at a level which was open prior to the deposition of the immediately overlying layer of logs.

The south or inner side of the ditch as seen in the profile had different structural remains *in situ* (Fig. 13). These remains consist of numerous timbers, stakes, boards and fascines (Fig. 17). The larger angled (post-like) timbers were chopped off at the bottom of the log fill level, another correlation of the destruction of the fortification at the time the log fill was placed in the ditch. Indeed, many of the logs in the ditch fill were presumably cut from the fortification structure and dropped into the ditch.

The profile gives only an incomplete view of this part of the ditch structure. From north to south, the first stake set in the ditch bottom slopes toward the south at an angle of 80 degrees. Farther south is a larger post, also set in the ditch bottom clay; it slopes toward the north at an angle of 60 degrees. Between these two stakes a sawn board lies flat on the ditch bottom clay, evidently a leveler for a 9-in.-diameter log which rests upon it. The log is oriented east-west along the ditch line. This log was *in situ* and was part of the fortification structure rather than part of the log fill in the zone stratigraphically above the timber works. Adjacent to the vertical south wall of the ditch a fascine held in place by two small wooden stakes driven at angles of 70 degrees to the south and 85 degrees to the north may be seen in the trench profile.

Ditch Features: East-West Plans

After the initial north-south trench cross-section of the ditch (5G44D) had revealed the preserved wooden structures, a new sub-operation (5G44F) was excavated toward the west to expose a longitudinal section along the south side of the fortification ditch (Fig. 18). It was evident that a complete exposure of the full width of the ditch would be impossible to complete in view of other site operations already started; hence only the south side's complex structures were exposed in the extension.

The floor plan of the south half of the ditch (Fig. 19) shows some of the additional structures not visible in the trench profile. Beginning at the east end of the exposure a horizontal log may be seen on the ditch floor. Just north of it is a small post angled 65 degrees toward the south. Adjacent to the horizontal log and over its top is another small post angled 75 degrees to the north. Behind it is another small post also angled to the north at 75 degrees. Two small vertical posts are associated with the southern end of the latter angled member. The end of the horizontal log on the ditch floor is square sawn and there is a gap of 1.5 ft. between its end and the sawn end of a similar horizontal log to the west. In the gap between these horizontal logs is a 1.0-ft.-diameter split post with two holes drilled in it. Drill shavings were found in the clay nearby. The large post is set in the ditch bottom and slants toward the south at an angle of 65 degrees. The top of this post has been chopped off, presumably when the timber structure was destroyed. A small vertical post is located adjacent to the north side of the large post, probably to brace its base and keep it in position.

To the west of the largest post is the second horizontal log described above. It rests upon a sawn board leveler as seen in the profile drawing and there are associated northward- and southward-slanted small posts. There is also a larger vertical post between the horizontal log and the ditch wall. Examination of the floor plan will reveal a line of such vertical posts with fascines to the north and south. These posts probably functioned to stabilize the fascines along with the numerous stakes which can be seen holding the fascines in place.

The second horizontal log is 10 ft. long. It has a sawn end near the large post described above; the western end is angled where the timber was chopped and the chopped angled butt of another log is fitted against it. The shorter log is 3.5 ft. in length and has a sawn end at a gap within which is seen another large southward-sloping stake. Both the 10-ft. and the 3.5-ft. horizontal timbers rest on sawn board levelers and both have northward- and southward-sloping small posts on the north and south sides of the log. The fascines are continuous along the ditch wall and are associated with vertical posts and small stakes as previously indicated.

The second large slanted log post, like the first one described above, is located in a 1.75-ft. gap in the horizontal log structure. To the west the sawn ends of two horizontal logs disappear into the unexcavated trench profile. The second large log is almost a foot in diameter and slants toward the south at an angle of 50 degrees. Its top has been chopped off.

The general pattern of the timber structure along the south ditch wall seems to repeat itself at intervals of about 14.5 ft. measured from the centres of the large south-slanted timbers placed in the gaps between the horizontal logs on the ditch floor. This dimension converts to 15.4 pieds in French measure, suggesting that if this were a French structure, its interval was about 15 pieds.

Summary of the Structure in the Ditch

Assuming that the exposure seen in this operation is typical, the construction can be summarized as follows. The south wall of the ditch is nearly vertical. Adjacent to the wall is a fascine made of a bundle of small birch sticks. The fascine bundles are 0.9 ft. to 1.5 ft. in diameter and about 16 ft. long. The fascine is held in place with small stakes driven vertically or at angles into the clay at irregular intervals. A second fascine bundle parallels the first but is farther to the north in the ditch.

A series of vertical posts about 6 in. in diameter is located between the two fascine lines. These posts are in a line 1.25 ft. north of the southern wall of the ditch (1 pied 4 pouce French measure). These posts are found at intervals of 2.25 ft. to 3.75 ft. along the ditch (approximately 2.5- to 4-pied intervals, French measure).

The next part of the pattern to the north is a line of northward-slanting posts about 2.5 ft. from the south ditch wall. These posts occur at intervals of 6.5 ft. (approximately 7 pieds) and are up to 6 inches in diameter. They slant toward the north at angles of 65 degrees to 80 degrees.

Another series of smaller posts, 3 in. to 4 in. in diameter, also slanting toward the north, are adjacent to the horizontal logs laid in the ditch bottom. Their angles are between 60 degrees and 85 degrees.

Horizontal logs rest on sawn levelers in the ditch bottom parallel to the wall some 2.75 ft. to 3.25 ft. north of the ditch wall. These logs are about 9 in. in diameter. Chopped ends are abutted while sawn ends flank gaps in the log line at intervals as noted above. Large-diameter southward-slanting posts are set in the gaps between logs as described above.

The final element in the complex is a line of small split stakes vertical to generally southward slanting. The line is 4.25 ft. (4.5 pieds) north of the south ditch wall and the stakes occur at intervals of 1.0 ft. to 2.75 ft.

The total structural pattern is well illustrated in Figure 20. This structure was not found in other operations exposing the ditch, but those excavations either did not penetrate the log-fill zone or were located along the north rather than the south side of the ditch and thus exposed the covered way rather than the timber structure.

A complete reconstruction of timber structures in the ditch is difficult because the structure was purposefully destroyed and only elements at the base remained in situ.

The function of the fascines was probably to retard erosion of the ditch wall. The fascines were held in place by small stakes driven into the clay. The vertical posts between the fascines may also have served to stabilize them.

The largest posts at 14.5-ft. intervals slanted toward the south. Chopped off at the fill line, these timbers must have been quite long originally and it can be suggested that they once rose to the height of the parapet behind the ditch. These large posts must have had a function in stabilizing the ditch wall and parapet and were thus probably part of a timber revetment. They could have held fascines in place against the earthen parapet but their massive size could also have supported a timber facing for the revetment. Drilled holes in one of these timbers indicate the possibility of wooden planks or beams having been fastened to these large slanted posts.

The horizontal logs laid in the ditch bottom must have served as a foundation for the revetment facing, whatever its material. They were carefully leveled or at least placed on sawn boards to prevent sinking into the clay of the ditch bottom. The line of southward-slanting split posts also is suggestive of a bracing function, and these too probably served in some manner to hold either fascines or timber facing in place as a revetment on the south side of the ditch and the parapet face.

The northward-slanting posts, which also appear at intervals, may have served as pickets or fraising since their angle made them protrude into the open ditch.

On the north side of the ditch there was no evidence of structure save a small angled stake seen in profile. It had been chopped off at the fill line and thus some structure had probably been destroyed there as well. Perhaps the small stake merely held additional fascines against the covered way. The major structure found in this part of the north side of the ditch was a clay vertical counterscarp and the banquette cut into the clay. North of the ditch the surface is now relatively level and if there was a glacis beyond the ditch, all evidence of its original elevation is now missing. A structure-free area north of the ditch has been identified by inference as the glacis location.

A plan of the first British fort dated 1789 (Fig. 21), an important historical document relating to these timber structures in the ditch fill, includes a profile of the ditch of the first fort and some proposed modifications. The profile on the 1789 plan shows the present fort with the superimposed outline of the proposed one in yellow. The portions originally in yellow are the timber works (Fig. 21). The similarity of these elements and the posts found in the fortification ditch near the northeast salient is striking. On this basis it would appear that the timber features within the fortification ditch are of British origin and of 1789 or later date.

The plan also shows the three redoubts connected by circumvallation and two bastions, structures which were never erected (Lee 1965a: 27). The purpose of the 1789 plan was to depict one version of those proposed works. The profile would appear to deal with such proposals as well. Since parts of the proposed fortifications were never built, there is no assurance in these historical plans that the proposed timber structures were erected either. However, the most reasonable interpretation based on this document is that the timber structures found within the fortification ditch are of British rather than French origin.

The width of the main part of the ditch shown on the 1789 plan is 33 ft. with a shallower extension toward the glacis with a maximum width of 50 ft. The 33-ft. width compares favourably with the 35-ft. archaeological measurement described above. The depth of the archaeological feature is 6.5 ft.; a comparable measurement on the historical plan shows a depth of 7 ft., taken at the centre and allowing for the leveling of the rampart.

On the 1789 plan a timber revetment is shown along the counterscarp on the side of the ditch comparable to the north side of the profile of the excavated area discussed above. The only trace of such timber was a single slanted stake. However, only a small portion of that side of the ditch was exposed. In another area near the shoulder of this bastion (5G48) a sod revetment was found associated with this wall of the ditch. The historical profile (Fig. 21) depicts a step at that side of the ditch upon which the timber (?) revetment rests. Such a step was found and has been described.

The 1789 profile depicts a picket in the centre of the ditch and is slanting slightly to the north. The centre line of the ditch was not exposed sufficiently during the excavations to locate such a structure if it remains *in situ*. The scope of excavation required for such an exposure would have prevented the excavation of other areas. Had the historical profile been available to the field party at the time this decision might have been different.

Along the scarp of the ditch, on its south side in the discussion of the archaeological features above, the historical profile (Fig. 21) reveals a timber structure with large southward-slanting posts. The bases of such timbers were found in the excavations as described above.

The historical profile also gives details of the fraising and rampart structures, but no archaeological evidence of the timber portions of these works remained. In the area excavated at the north face, all evidence of the earthen rampart was gone; traces of it have been described in the profile of another operation (5G35M).

There are some general and a few specific correspondences between the details shown on the 1789 plan and those found in the archaeologial excavations. The excavation data do not, however, confirm the complete accuracy of the plan. The plan, on the other hand, was a proposal and the final construction need not have been the same as that shown on the plan.

Ditch Section at Northeast Salient: Interpretation

The stratigraphic sequence of fill in this section of the ditch has already been described. The significant point is that all of the ditch structures - the banquette, the timber base for the revetment and the fascines - are beneath the zone of log fill in the ditch and associated with the clay levels in the ditch bottom. Although only a few artifacts were recovered from those lowest deposits, an estimate of the chronology can be made and will be discussed in detail in a later section of the report. One of the most significant discoveries, however, was a French coarse earthenware sherd recovered from within one of the fascines. Although the specimen could have been jammed into that position during the later destruction of the timber works, the probability is that it was incorporated into the fascine during its construction. Even that could have happened during the British period if a French sherd on the surface had been picked up. The sherd supports the French construction hypothesis; however, other alternatives must be stated and considered.

The correlation of the first British fort and the bastion of the older French fortification shown on the 1789 plan (Fig. 21) and the record that the British shortened the old French lines to make their fort (Lee 1965a: 24-5) has already been discussed. The ditch excavated in this series of trenches is clearly the ditch of the first British fort and there is little question that it employed the old French ditch.

If there is no doubt about the origin of the ditch itself, there remains a question about the origin of the timber defensive work within the ditch. Was this structure of French or British origin? The Bourlamaque map (Fig. 3c) shows dots in the ditches which can be interpreted as the depiction of timber pickets.

The French fort was abandoned in 1761 and it was not until 1776 that the British returned to the island. Sometime between 1776 and 1780 their first fort was constructed. An abandonment of 15 to 20 years must have resulted in some deterioration of the old French fortifications, even assuming that nothing had been done to destroy them as was reported.

Some erosion of the ditch itself must have taken place and it is likely that the British must have had to do some excavation to repair that portion of the line they were using for their fort. If the timber structure was of French origin, it would be necessary to postulate its survival, after the 15- to 20-year period of abandonment, in suitable condition to be retained as a part of the British defenses.

Although survival is possible, it is not likely.

Documentary evidence that the timber works were part of the British fortification is seen in the profile drawing on the 1789 plan (Fig. 21) discussed above.

The timber work was purposefully destroyed and the logs thrown into the bottom of the ditch. Historical evidence and the ceramic contents of this zone correlate the destruction of the work with the 1819-28 construction period when Fort Lennox was built. Thus, both an archaeological and historical date of 1819 can be assigned as the terminal date for the timber structure in the ditch. Unfortunately, the archaeological evidence does not solve the problem of origin.

The ditch clay layer includes sherds of both Periods I and II - that is, both French and early British specimens, indicating the ditch was open from 1759 to 1819. The only archaeological evidence associated directly with a non-earthen part of the fortification complex is a single French sherd recovered from within a fascine held in place against the ditch wall by stakes. No specimen so directly related to the timber works was found.

The most tenable reconstruction hypothesis is that the fascines were part of the original French works in the ditch and that the timber structure was of later British origin. The timbers could have been built by the French but a British origin is a more secure hypothesis until more specific archaeological data to the contrary is found.

Excavations in the Glacis Area

The excavation which cross-sectioned the north face of the first British fort near the northeast salient (5G44) extended well toward the north - the part which was excavated first.

Among the objectives of the overall plan for the field season was the investigation of a large resistivity anomaly outlined during earlier seasons at the site (Fig. 22). This area of high resistivity difference was located in a geohm-survey block in the area grid N160-280 and E320-560. A wide linear area of high resistance was present in the plot, roughly between N190-260 and E370-560 (see Figs. 22 and 12). One hypothesis put forward to explain this anomaly was that it might be the site of the ship construction area within the navy yard (Ashworth: pers. com.) and it was designated "slip?" on the 1965 drawings. The initial 1966 excavations were oriented to cross-section this area to test this hypothesis (5G44).

This excavation (5G44A1, 5G44B1, 5G44B3, 5G44B7, 5G44B8, and 5G44B10) revealed that the high resistance area consisted of undisturbed subsoil. The north edge of the area was bounded by a drainage ditch and the remants of a structure (to be discussed in another report [5G44C, 5G44E]) which may be the commodore's residence/blacksmith shop/porter's cottage of the 1816-42 period (Grange 1967: 23).

Within the area of the geohm anomaly there was a natural and cultural stratigraphy consisting of a sod layer and a topsoil and refuse zone. The latter, containing artifacts, terminated abruptly about 0.5 ft. below the surface. Beneath the refuse zone was a hard-packed layer of sandy clay which appeared to be undisturbed subsoil. Extensive test trenching through this area confirmed that interpretation and yielded no artifacts except in a small lens of charcoal (5G44B10) which contained the remains of a moulded bottle.

The sterile, barren nature of the geohm anomaly precludes its being the site of the ship construction slip. The slip must have been located somewhere on the east side of the island within the navy yard area to take advantage of the deep water for launchings. The 1829 plan of the dockyard area includes as item No. 10, "Keel etc. of champlain" and as item No. 11, "Store Porter's Cottage" (PAC, MG12, WO44, Vol. 40, Reel B-1309). The keel, which must have been in the location of the ship construction area, is to the north of the cottage while the geohm anomaly is to the south of the structural remains of that building (Grange 1967: 24). The keel location shown on that plan must be at about grid location N400/E500-600. This eliminates the naval identification of the geohm feature.

The geohm anomaly is located just north of the line of the ditch of the first British fort exposed in this area (see Figs. 9, 22). The long axis of the geohm anomaly parallels the ditch. The resistivity pattern appears to be the result of differences between the soil of the fortification ditch on the south and a drainage ditch on the northern side of an area of relatively undisturbed subsoil. The geohm anomaly demarks one of the few undisturbed areas encountered in the excavations on Ile-aux-Noix.

The most obvious explanation of such an undisturbed area is that it was once beneath the glacis slope of the first British fort. The undisturbed area is adjacent to the fortification ditch, parallels it, and is about the proper width (north-south) for the glacis as shown on the 1814 plan.

The presence of the glacis slope in this area would have prevented construction during the period 1759 to 1819 when the first fort was leveled to make way for Fort Lennox. The refuse deposit above the subsoil would thus post-date the 1819 construction date. Artifact analysis supports this interpretation.

Nothing remains of the glacis slope today; except for the drainage ditches, the area was quite level in 1966. The glacis would have been removed and used to fill the old fortification ditches. In the absence of positive remains of the glacis fills, it is difficult to demonstrate that the undisturbed subsoil marks the location of the glacis. However, this hypothesis does explain the geohm anomaly in a manner consistent with other archaeological and historical data. Table 3 summarizes the stratigraphy in this area.

The North Face of the First British Fort, Northwest Shoulder

Excavations at the salient described above clarified the meaning of the slight surface depressions which had been obscured by the presence of a modern drainage ditch along the line of the former fortification. The course of the surface indication of the feature was plotted and the entire face of the bastion ditch, a possible shoulder, flank and salient were discovered (Fig. 9). To confirm this interpretation of the surface depression, additional excavations were planned in the area of the shoulder or corner of the ditch (5G48).

A geohm resistivity survey of the shoulder was undertaken, and the probable position of the ditch within the wider surface depression was predicted with what proved to be considerable accuracy. The resistivity survey was not absolutely necessary in view of the surface evidence but it proved a useful opportunity to test the technique and to train the assistants in the use of the equipment.

An operation was designed to cross-section the north side of the ditch and to locate the corner and western side of the ditch at the shoulder angle (Fig. 9). Sub-operations were opened within the excavation unit as needed to follow the curving path of the ditch (Fig. 23). The excavations were arranged to locate the outlines of the ditch and to sample the artifact content of the fill rather than as a complete exposure of the shoulder angle. The location of this part of the ditch was necessary data to have in hand in order to carry forward a comparison of the map locations of the original French works with those of the later British fort as a test of the re-use hypothesis. It was also necessary to limit the scope of these excavations in order to provide manpower for other work elsewhere on the island.

As in the earlier excavation a layer of log fill was encountered. Coupled with severe moisture problems in the clay level of the ditch bottom, this made it impossible to completely expose the bottom of the ditch, except along the north side. These excavations were successful in their intended purpose (Fig. 24).

There were stratified deposits in this part of the ditch as in the cross-section near the northeast salient. Table 4 lists the major stratigraphic units and the sub-operation and lot numbers assigned to specific excavation units within the operation (Fig. 25).

The sod level is again self-explanatory. Beneath it was a topsoil layer and below that a zone of dark soil, also above the line of the ditch. Beneath the dark soil was a layer of fill still above the ditch line. Below this more recent fill was a 6-ft. long lens heavily charged with artifacts which was also intrusive into the fill deposits within the body of the fortification ditch. The lens probably represents a short-term deposit used to fill a mud hole along a pathway leading from the entrance area of Fort Lennox to the dock on the east side of the island.

Two layers of fill were distinguished within the ditch limits. One rocky layer was designated the "upper ditch fill" and the lower one termed the "ditch fill" above the wood level. As the latter zone was removed, the clay layer of the covered way was exposed along the north side of the fortification ditch. The layer of large log fill and the deeper fill deposits as well as the ditch bottom clay had to be left unexcavated. The size of the excavation necessary to remove the timber obstructions would have required the abandonment of other work for the season and it was deemed better to locate the ditch feature and leave the bottom undisturbed and protected by the log fill until some future date when the entire bastion ditch could be excavated and stabilized as an interpretive unit. One slanting picket was exposed in an area where the ditch bottom was exposed (Fig. 26).

The width of the north face ditch at the highest point of detection in the profile of the cross-sectioning trench (5G48B; see Fig. 25) is 42.5 ft. At the level of the top of the wood fill zone the width of the ditch is 32.5 ft. The top of the wood fill was encountered at a depth of almost 5 ft. below the surface near the centre of this north-south oriented trench; the true bottom of the ditch is at an undetermined depth below the wood fill. No evidence of the wooden revetment structure along the south side of the ditch was found, but if present, would be at a greater depth. Along the north side of the ditch wall some sub-surface sod deposits were located. Elsewhere in this operation it was found that the north side of the fortification ditch had been revetted with sod blocks and these sod deposits are probably from that structure.

After excavation of the north-south cross-section of the ditch an east-west trench was extended west (5G48C; see Fig. 24) and enlarged on its western end (5G48D) to locate and follow the outer curve of the ditch line at the shoulder angle of the bastion (see Figs. 27a and b). Here again excavation terminated at the log fill level. The top of the covered way step was exposed; a few shorter timbers were found resting on its surface (Figs. 28a and b). The covered way ranged from 2.5 ft. to nearly 5 ft. in width. Behind the covered way step the wall of the ditch was provided with a revetment made of sod blocks laid in brick-like fashion (Fig. 29).

This evidence had either not been present in the earlier excavations at the northeast salient or was no longer detectable there. Thus these new traces were an important addition to the information about the construction of the fortification ditch. The use of sod for the revetment differs from the apparent timber revetment shown in the ditch profile on the 1789 plan (Fig. 21).

Two small trenches were excavated to the north (5G48E) and also an arm to the south (5G48F) to follow the inner curve of the shoulder angle around the corner (Fig. 30). This, combined with similar evidence concerning the outer ditch wall, permits the projection of the line of the west flank of the bastion toward the south. The shoulder angle was a rounded curve on both its exterior and interior lines. The covered way step and the sod revetment followed around the curve from the north to the west ditch wall.

Many artifacts were recovered from this part of the ditch fill. All of these specimens come from the stratigraphic levels above the log fill zone and should be of aid in determining the date of filling; as an initial hypothesis, that filling is assumed to be related to the construction of Fort Lennox, 1819-28, during the Period III phase of occupation on Ile-aux-Noix. It was probably completed before 1823 to facilitate the removal of the barracks structures below the old fort.

The West Salient of the First British Fort

The line of the ditch from the first British fort, a shallow low surface depression, could be traced southward up the glacis of Fort Lennox (Fig. 31). The line included an abrupt angular protrusion towards the west which appeared to correspond in location to the west salient seen on plans of the British fort (Fig. 6). This structure of the British fort is south of the north curtain line of the old French ditch (Fig. 4), and if the hypothesis that the British re-used the old French ditch is correct, this section must have been excavated by the British as part of their new work to enclose the old French bastion as their new fort. This salient was entirely of British construction.

A new operation (5G57) was begun to cross-section the point of the salient with a north-south oriented trench. It was hoped that this trench would reveal data demonstrating the British origin of the salient (Fig. 32). Once again the fill of the ditch proved to contain a layer of solidly packed and well-preserved logs. The identity of this layer and the short time remaining in the field season prevented these excavations from being carried below the top of the log level and the original purpose of the excavation was not fully accomplished since that would have required obtaining a sample of artifacts and other data from the true bottom of the ditch.

The top of the log level was nearly 8 ft. below the present surface (Fig. 33). The greater depth of this feature here is due to its location high on the Fort Lennox glacis where more fill was added as the glacis was raised.

As in other trenches described earlier, a series of stratified deposits was encountered in this excavation. The sequence of these levels and the associated lot units are recorded in Table 5.

The uppermost layer is again a deposit of the recent sod zone. A lens of fill intrudes into the soil layer found beneath the sod over the excavated area above the line where the fortification ditch could be detected. Two zones were detected and three separate lots established within the upper and lower ditch fill. However, all three could be combined as a single zone of ditch fill lying above the layer of logs most of which were not excavated. One layer (5G57B3) is above the other two. One includes ditch fill and part of the log layer (5G57B4) while the other is adjacent fill (5G57B5).

The excavation was close to the western tip of the salient (Fig. 9), and cross-sectioned the north side of the salient ditch. At this point the ditch was found to be 45 ft. wide at the log fill level. Cross-bedding of the logs may be seen in photographs of the excavation (Fig. 34) and the angle of the logs suggests that this may be close to the tip of the salient as the surface depression suggested.

None of the structural features encountered in the previous ditch excavations was seen in this area, possible evidence of the British origin of the salient. However, this cannot be demonstrated without broader and deeper excavation of the salient which was not possible during the field season.

One significant point may be discussed. Here, too, the ditch was filled with a layer of timbers. If the hypothesis that the salient was entirely of British origin and not a re-used section of the French ditch is correct, the excavation of the salient must have taken place during the Period II construcion phase when the first British fort was built. If that was the case, the log fill, on these stratigraphic-historical grounds, must have been placed in this section of the ditch during Period III when Fort Lennox was constructed in 1819-28. The relative dating of the log deposit here could be extended to the log deposits found in the previously excavated portions of the first British ditch by virtue of their similarity. Such an hypothesis supports the contention that the log fill deposit everywhere exposed dates to the Lennox construction period. If that is the case, the log fill is a late event and does not reflect the historically recorded destruction of the French fortifications by the British in 1760 (Lee 1965a: 18).

Summary of Excavations in the First British Fort

The series of trenches discussed above cross-section the fortification ditch of the first British fort in several places on the east, north and western sides where it has not been destroyed by the Fort Lennox moat and ramparts. There is no question from the shape of the feature (Fig. 9) and its location that it is the first British fort. The correspondence of this feature with one bastion of the French fortification as revealed by map analysis has been discussed. The analysis of the artifacts recovered from the various stratigraphic horizons will be of aid in testing the re-use hypothesis and confirming the French origin of all but the west salient of the ditch line.

Excavations in Redoubt No. 2

Three redoubts were added to the British fortification in 1782. The one on the western side of the island was termed the front redoubt (1809 map) or Redoubt No. 2 (Fig. 6). This redoubt was removed when Fort Lennox was constructed in 1819-28 and most of its former location was obliterated by the moat, rampart and other structures of Fort Lennox. Redoubt No. 1 was also destroyed. Work on the Fort Lennox ditch, ramparts and glacis appears to have been completed last in this area. Two plans contribute to this interpretation. One is an 1819 drawing (PAC, MG12, WO55, Vol. 861, Reel B-2508) showing in profile sections the progress on ditch and rampart construction. It does not include a profile for this area of Fort Lennox, implying that work had not been done in this location at that date.

The 1823 plan (PAC, H4/350 Ile-aux-Noix 1923) shows Fort Lennox about two-thirds complete. The plan alone is difficult to interpret but solid lines, dotted lines and shading are used to depict the Fort Lennox defensive works. Dotted lines around the northwest corner of Fort Lennox in the area of this excavation operation are interpreted as evidence that the ditch and moat were not finished there by the 1823 date of the plan. Solid lines and dark shading appear to depict completed areas of work. On this basis it appears that the rampart had been raised but not completed opposite this particular excavation site in 1823.

This historical evidence is of potential significance in the interpretation of the archaeological evidence in this area since it indicates that the construction work and perhaps the ditch fill could be slightly later here than in the other excavation sections.

The search for remnants of the old French fort on Ile-aux-Noix included a careful surface survey of the perimeter of the island around Fort Lennox since the French plans all showed fortification lines around the edge of the island. It was hoped that some surface evidence of these features might be found. Some surface depressions were located in the southeast end of the island and on the west side. The depressions could have been remnants of French ditches; however, their orientation and location made it more likely they were remnants of the two redoubts leveled when Fort Lennox was built (see Fig. 9; cf. Fig. 6).

The surface depression of the No. 2 redoubt on the west side of the island was selected for a test excavation. This was based on the hypothesis that, since the British probably re-used the French bastion ditch in building their main fort, they might have re-used portions of the old French ditches in construction of the redoubts. There is a striking correspondence between the location of the salient of the British redoubt and the western salient of the French fortification (cf. Figs. 6 and 4).

Because of this correspondence, a north-south oriented test trench (5G49), 90 ft. long and 5 ft. wide, was excavated. It was designed to cross-section the south ditch of the salient. Several stratigraphic levels were encountered and these are summarized in Table 6. Various combinations of the associated lots used as excavation units will be employed in the analysis of the artifacts recovered in the operation.

The grass-root level was stripped from the operation and the first layer of dark silty soil, the sod zone, was excavated. This unit was extended as the original trench was lengthened. The upper fill deposits were mixed; disturbed areas with rock inclusions and an angular soil stain of indeterminate function were found (Fig. 37) within the area of the fortification ditch south of a remnant of the redoubt wall, above the redoubt wall and to the north of the redoubt wall. The wall segment angled across the ditch was a low-standing remnant of a masonry structure similar to the narrow masonry walls associated with the south redoubt excavated in a different operation (Fig. 38). South of the wall remnant was the ditch line beneath the surface depression marking the southern side of the redoubt salient. North of the wall remnant was the interior of the redoubt, and here the layers seen in the trench profile appear to be more nearly horizontal in contrast to those south of the wall where the fill zones follow the contour of the ditch. These fill levels north of the masonry could be related to the construction of the redoubt rampart. The narrow trench exposure was too small to further explore the redoubt structure, particularly since these excavations were carried on during the last weeks of the field season.

South of the wall remnant was the layer of log encountered elsewhere in the early ditches. Portions of the log fill level were removed and an underlying clay layer was partially excavated. In the centre of the former ditch the log level was not completely excavated.

Most of the deposits within this part of the excavation represent fill levels probably placed when the redoubt was leveled during the construction of Fort Lennox, 1819-28. To the north of the masonry wall remnant the fill levels could date to the redoubt construction occupation during 1782-1819. At the far south end of the excavation a remnant of a feature dating to the French occupation of Period I was discovered.

The most significant excavations proved to be in the southern end of the original trench where a small segment of an intersecting trench, deeply buried, was encountered. A sub-operation was opened to more fully expose this feature discovered during the final week of work at the site. The intersecting ditch was partly exposed by this extension but could not be fully cross-sectioned during the brief time available for excavation. It was an important discovery nevertheless because it was clearly beyond the limits of the No. 2 redoubt ditch and was not a part of Fort Lennox either. It appeared to be a small segment of the original French earthworks, undisturbed except for later filling. The recovery of French coarse earthenware sherds from the feature helped to confirm this hypothesis in the field (Fig. 39).

Another important bit of information is seen in Figure 35 in which it is clear, despite the small horizontal exposure, that the redoubt ditch wall and the wall of the old French ditch to the south form a continuous earthwork. This (stratigraphic) relationship confirms the hypothesis that the British re-used the old French salient to reduce the excavation labour in the construction of the ditch for redoubt No. 2. In the trench profile (Fig. 36) the fill of the redoubt ditch line may be seen sloping above the relatively level fill of the old French ditch (see also Fig. 40).

Although only a tiny section of undisturbed French ditch was found, it is probably safe to assume that a considerable section of this early feature probably survives buried along the west side of Ile-aux-Noix between the west side of Fort Lennox and the shore of the island. It would be easy for future field work to trace the remainder of this line should further research or development of the French feature be desired. Thus, the primary objective of the 1966 field party was achieved in small measure during the final week of excavations on the island when some remnants of the old French fort had finally been located.

Stratigraphic analysis of the specimens recovered from various stratigraphic units within these excavations can be used to test this hypothesis based on the correlation of the historical records and the stratigraphic deposits in the site.

The location of the archaeological features discussed above and their correlations with surface depressions, modern Fort Lennox and the lines of the French fort taken from the 1780 plan are combined in Figure 44.

Excavations Near the North Ravelin

In 1967 Frank Korvemaker conducted salvage excavations at Fort Lennox in connection with the installation of underground fuel tank, fuel pipes and improvements to the drainage system. The excavations were carried out with a back hoe and consisted of narrow trenches except for larger openings for the fuel tank installation (5G60).

The fuel tank was to be installed in the area of the north ravelin, but archaeological discoveries required its relocation toward the west. The archaeological discoveries consisted of buried logs, some of which appeared to be a collapsed structure (Korvemaker 1968: 9-12); see Fig. 41) and logs resting upon one another (Korvemaker 1968: 6-8; see Fig. 42). Korvemaker, unable to find recorded structures in this location within the ravelin, concluded that an unknown structure had been found (Korvemaker 1968: 5, 8).

The lack of associated specimens made it undatable. Logs were also encountered in the trench in which the fuel tank was finally placed west of the north ravelin. These were unworked logs and completely covered the exposed area (Korvemaker 1968: 9). The unworked logs slope down toward the moat (Korvemaker 1968: 11-2; see Fig. 43).

The location of these excavations is shown in Figure 44. This map shows the lines of the first French fort taken from the 1780 plan (Lee 1965a: Map 2; see Fig. 4) correlated with the modern structures and with the northern end of the first British fort as it is shown in the 1780 and 1814 maps (Figs. 4 and 6).

When the British built their first fort they utilized the northeast bastion of the old French fort (Fig. 4). It will be seen in Figure 44 that west of the west flank and salient of the British fort (5G57) lay those former French ditches which had not been used as part of the British defenses. These unused ditches were filled in when the British fort was built in 1776. Figure 44 also shows that the north curtain of the older French fort (between its northeast and northwest bastions) passes through the area just north of the Fort Lennox moat near the north ravelin.

The unidentified log deposits and structures seen in the salvage excavations by Korvemaker are in close proximity to the line of the French north curtain ditch as projected from the 1780 plan, if that plan is assumed to be accurate and its correlation with the present features is correct. On this basis it is possible to advance the hypothesis that these unidentified log structures are related to the old French fort. Limited artifacts were recovered from these excavations and the wooden features were not excavated. The fuel tank was located elsewhere on the basis of this salvage work. More complete excavation of this area will be necessary to test this hypothesis concerning the identification of these features.

Excavations Inside Fort Lennox

Korvemaker also discovered a log deposit in a trench inside Fort Lennox (5G63) (Korvemaker 1968: 36). He was unable to relate these logs to the drainage system he was investigating or to other features on historical plans. The location of these logs is shown in Figures 9 and 44. Figure 44 shows the lines of the old French fort, taken from the 1780 plan. It is notable that these logs are very close to the line of a diagonal feature within the French fort area shown on the 1780 plan. Since this linear feature runs diagonally from the entrance of the fort to a southeastern structure which appears to be a rampart, the linear structure may well be a roadway providing access across the parade ground. The necessity for drainage is evident in the decision to construct the later drainage system investigated by Korvemaker. The former swampy condition of the island has been noted and the possibility of a timbered roadway is a reasonable inference.

Whatever their function, these logs are here interpreted as additional evidence of the former French fortifications. Only additional excavation will permit the testing of this hypothesis.

At present the best support for this interpretation, aside from the historical-archaeological evidence which permits this correlation of the old French fort and the first British fort, is the discovery of a small segment of a filled French ditch (5G49C2) on the west side of the island. This feature and its interpretation has been discussed in detail in earlier sections of this report. It should be remembered that this old ditch was found at a location which correlates very well with the lines of the French fort shown on the 1780 plan as correlated in Figure 5.

Should further work prove these hypotheses correct, additional French lines in the perimeter trench around Fort Lennox may remain intact for excavation. The area between the moat and the north ravelin and the river to the west may also retain remnants of the early French ditches. Additionally, the 1780 map shows small structures within the French lines. There is no way of knowing if these were British or French, but they are presumably French. In any event, three of these structures were located in the centre of the Fort Lennox parade ground (Fig. 44). Excavation of that area might be very rewarding.

Unfortunately, Korvemaker's excavations produced few artifacts and those recovered came from the overlying fill levels rather than from the log structures inside Fort Lennox or outside in the north ravelin area. Most of the specimens date from the last half of the 19th century (Walker, Priess, Herst and Jones 1973: pers. com.) and merely serve to confirm the relatively late age of the overlying deposits. Extensive excavation of these buried features themselves will be required to test the French origin of these log features which is suggested here.

Excavations in the Northern Part of the Island

In addition to seeking traces of the French fort at the south end of the island, efforts were made to locate evidence of the redoubts of St. Antoine and St. Louis and the blockhouse at the northern end of the island (see Fig. 3c, Bourlamaque map). Intensive surface survey was conducted, air photos were examined, efforts to correlate the Bourlamaque map with modern features were made and test excavations were also carried out. However, no convincing evidence of these French features was sought.

Most of the historical plans (Fig. 3) of the French fortifications show the redoubts St. Antoine and St. Louis in a location to the north of the narrowest part of the island waist. In addition to this hypothetical map location, surface depressions and air photo evidence suggested some possible disturbances near a cemetery (Lee 1966: No. 77) located on the west side of the island. Accordingly, some test excavations were carried out in this area although they did not appear promising from the outset. Those excavations (5G47) revealed occupational debris of a period later than the French occupation, probably in the 1780s. No evidence of the French St. Antoine redoubt was found in that operation, a subject discussed in a separate report.

Improved correlation of the 1780 plan and the benefit of hindsight lead to the suggestion that if any remnant of the redoubt St. Antoine exists, it will be found south of the location of the area tested (5G47) near the cemetery.

A search was made for the St. Louis redoubt on the east side of the island, again looking north of the narrow island middle. Here a pronounced mound was found in a location at least consistent with the Bourlamaque map correlation being used at the time. The mound was excavated (5G46) in the hope that it would prove to be the redoubt. The remains of a small wooden structure were found in the mound but the associated ceramics make it clear that this building is later than 1780. It will be the subject of a separate report.

Other excavations during the 1966 field season were concerned with a continuation of work on the 1782 British redoubt No. 3 which had been leveled in 1812 to make way for the navy yard. This redoubt and its blockhouse (Lee 1966: No. 30) are located close to the east side of the island near its narrowest point. The only architectural remains found in this area were those of the British redoubt and later navy buildings. However, some sherds identified as French unglazed earthenware were found in these operations. These specimens were found in the mixed occupational refuse of that area and were not associated with any feature. They may mean nothing, but they could be an indication that a French structure had been in the area prior to the British redoubt. Only a small area of the British redoubt has been excavated; if further excavations are undertaken, a careful search should be made for possible evidence of the St. Louis redoubt. Current map correlations (Fig. 44) would support such a location for this French work.

On one French map (Fig. 3c) a "blockhous en bois" is shown on the northeastern corner of Ile-aux-Noix. Efforts were also made to locate evidence of this structure. No good surface evidence was found, but swampy conditions and the use of the area as a public campground, as well as lack of time, prevented this search from being as intensive as it could have been. During the survey numerous surface hummocks and depressions were found and evidence of a possible structure at the north end of the island was located. Several other low mounds were found and some test excavations were made in five separate operations (5G50, 5G51, 5G53, 5G55 and 5G56). Few artifacts were found and none suggest either of the two most northern mounds (5G50 and 5G51) was the French blockhouse. Two other mound excavations (5G55 and 5G56) in the northwest sector of the island revealed the remains of brick structures thought to be late features. The test pits (5G53) tested an area shown on the air photo to contain linear features. No structural remains were found.

In one test pit (5G53A) fragments of a hollow cannon-ball were found associated with an irregular feature interpreted as the impact crater of the shell (Fig. 45). It is quite possible that this specimen and feature are related to the British siege of the French in 1760.

The results of the work on the northern end of the island were negative with respect to the problem of locating the French blockhouse. However, the excavations were very limited relative to the area and further work should be done to locate that structure.

Surface Evidence of the Old Fortifications

Surface depressions were useful in locating parts of the old fortifications. The line of the north side of the first English fort, which is also interpreted here as the east demi-bastion on the north side of the old French fort, was well marked by surface depressions which served as a guide to the location of archaeological trenches (5G35M, 5G45; 5G44D, F; 5G48; 5G57). These excavations confirm the correspondence of this surface feature with the historical fortification ditch.

On the west side of the island an angular surface depression was interpreted as the west salient of the No. 2 redoubt and a test excavation (5G49) was excavated there. Evidence of the redoubt ditch was found, as has been discussed. There is a possibility that this angular depression might also be the line of a salient on the west side of the old French fort, if the redoubt No. 2 ditch re-used that French work, as the meagre archaeological evidence suggests. In that excavation (5G49C) a trace of a buried ditch was found and identified as part of the French line on the west side of the island. That former French ditch was not visible on the surface as a depression.

Two other surface depressions can be correlated with historical features on the basis of map analysis. On the east side of Ile-aux-Noix, opposite the east face of the northeast bastion of Fort Lennox, there is a deep angular surface depression. This depression can be interpreted as the east salient of the first British fort (Fig. 44) on the basis of the correspondence of locations. This salient was probably part of the original French fort as well, since, as previously discussed, the British fort re-used parts of those lines. No excavations have been conducted to confirm this hypothesis.

The second surface depression, easily correlated with historicl plans, is around the southeast bastion of Fort Lennox (Fig. 44). Beginning at the juncture of the ravelin and bastion moats at the south end of Fort Lennox, a surface depression in broad ditch-like form surrounds the salient of the southeast bastion. It forms an angular ditch with three sides. On the east it terminates in a large irregular depressed area, losing the ditch shape. Inside Fort Lennox, across the gorge of the southeast bastion, is a shallow surface depression (Fig. 44). When these are plotted, they form a pentagonal unit of a shape and location which can easily be interpreted as that of the No. 1 redoubt of the British period.

The surface depressions noted above were plotted during th 1966 field season and were used in planning the excavations. At that time a search for other surface depressions was also conducted, seeking areas which might be correlated with either French or British features shown on the historical plans. Although numerous surface irregularities were located, none could be correlated with the French plans with a degree of confidence sufficient to serve as a basis for excavation.

The correlation of the French plans, each of which is different (Fig. 3), remains a difficult problem. However, as previously discussed, it has since been concluded that the British plan of 1780 which shows the former French lines as well as the first British fort (Fig. 4) is probably accurate. The 1780 map has been correlated with the present Fort Lennox and other surface features on the basis of the line of the north bastion of the British fort (Grange 1966: 31a). During the summer of 1973 a revised drawing of correlated features (Fig. 44) was taken to the site and compared with surface depressions. There are so many surface irregularities that the detection of a regular depression is difficult except in the case of the more pronounced lines of the old redoubts described above. There is always the danger of over-interpretation of the irregular surface depressions. It should be borne in mind when reading the following discussion that it intentionally pushes such tentative identifications to the furthest possible limit.

The water in the Richelieu River was high in 1973, and the water level in the Fort Lennox moat was much higher than during the 1966 season. Water was found standing in surface depressions in many locations.

The Bourlamaque map of the French works shows the fortification ditch connected to the river to create a wet moat, a feature which has been evaluated as "doubtful" (Lee 1965b: Map 3). However, if the correlation of the French lines on the 1780 plan and the modern features is correct, the ditch probably was connected to the river. If so, a water level comparable to that seen in the summer of 1973 would probably have resulted in water filling the ditches since it created a water table above the level of the present surface where it is lowest. Even in 1966 the water table was at the level of the gray subsoil clay and the bottoms of the ditches were muddy and often too wet to excavate. The excavation of the old fortification ditches would have been impossible with a water level as high as that in 1973. During the French occupation a pallisade-dam was erected to bar the river to boats and to raise the water level. The water level in Lake Champlain was raised and it was also higher around the island (Lee 1965a: 6-7). On the basis of this historical documentation and the field observations, it may be concluded that the elevation of the ditch bottom was low enough to have resulted in a wet moat during high-water periods at least and that the French fortification probably had water in its ditch.

On the west side of the island between the Fort Lennox moat and the river, a number of surface depressions are present. These cannot be correlated with the former French lines except that it is quite possible that one of these may correlate with the flank of a broad salient of the French line near the shoulder of the west face of the southwest bastion of Fort Lennox.

Some of these surface depressions along the west side of Fort Lennox may represent the remains of later structures rather than those of the original French fortifications. A large barracks, barracks cookhouse and barracks store are shown between the river and the west face of the southwest bastion on the 1823 plan. Settlement of the glacis fill over the sites of these buildings could account for some of the surface depressions noted in this area.

Other depressions were seen opposite the salient and around the south face of the southwest bastion, toward the juncture of the moat and the ravelin moat. These could be related to the line of a French salient (Fig. 44). The correlation is tenuous, first because the surface in that area is too irregular to permit the tracing of former ditch lines with the degree of accuracy found in the case of the British redoubts, and second because the map correlation indicates that this French line was more likely destroyed by the moat of Fort Lennox. However, the possibility that a remnant of a French ditch may be found here should at least be mentioned.

At the extreme south end of the island the French had a perimeter ditch with a salient (Fig. 44). This part of the island is very low and swampy, overgrown with tall weeds in 1973 as it was in 1966, and difficult to trace any surface features in. However, due to the high water level in 1973 a definite linear depression was located very close to the end of the island and just west of the ravelin moat salient. This linear depression was about 10 feet north of the end of the island; the land was a foot or so higher in elevation at the end of the island than in the depression. Water was standing in the depression and a row of water plants was growing down its centre; its orientation was east-west. It is not possible to identify this depression as an archaeological feature given the swampy condition of this area; however, the correlation of this depression, visible because of the high water level, with the line of the French perimeter ditch is notable (Fig. 44) and worth mentioning as a point for potential future investigation.

No definite surface features were seen in the southeastern corner of the island other than the redoubt ditch previously noted. It is very swampy at water's edge; the possibility of erosion along the south end of the island is significant. The French perimeter ditch was apparently close to the edge of the land.

The southeast salient of redoubt No. 1, identified as a surface depression, might also mark the location of a French salient re-used by the British (Fig. 44), suggested by an interesting correlation between the maps. The badly disturbed larger depression at the eastern corner of redoubt No. 1 was thought in 1966 to be the location of the redoubt angle; it may also be the location of a French salient in the southern perimeter line (Fig. 44) which might account for the broader depression.

Opposite the east curtain of Fort Lennox and just south of the angular surface depression already identified as the east salient of the British fort is another angular depressed area. Although it is probably easy to see depressions where one is looking for them, this area does correspond to an angle in the French lines (Fig. 44). The surface along this side of the fort is too irregular for a positive identification but there is a possibility that part of the French ditch might be preserved here.

On the north side of Fort Lennox the line of the northeast French bastion converted into the English fort has already been discussed; here excavations confirm the interpretation of the surface features. The hypothetical line of the French north curtain and entrance complex lies beneath the north ravelin and sally port (Fig. 44) and the glacis slope of that feature obscures earlier ones. The interpretation of the log features encountered by Korvemaker's salvage work in this area as material remains of French origin has already been discussed.

On the west side of the north ravelin are some interesting surface depressions which were better understood in 1973 than in 1966 (Fig. 44). Here there is a deep swale, oriented northeast-southwest (archaeological grid), which seems to be the line of the ravelin glacis. Immediately to the west is a relatively high flat area. Along the north side of this "plateau" is an east-west oriented depression which joins that marking the western side of the ravelin glacis, making a fairly large depression. The east-west oriented depression continues clear across the island. In part, this depression represents a recent drainage ditch line. On the eastern side of the island this recent ditch followed the line of the north face of the early fortification ditch and was encountered above the ditch in excavations in that area (5G44D, F). Thus, the modern ditch appears to have followed the line of a pre-existing surface depression.

North of the prominent plateau-like high area, the depression-modern ditch line is pronounced and here there was water standing in 1973. This east-west depression runs into the south end of the large north-south oriented "drydock" feature and into an east-west channel connecting with the river on the west. The so-called drydock appears to be the start of excavation on a horn work intended to surround the navy yard but never completed (Grange 1967: 32-3; Ashworth 1966: 13-1 to 8).

The relationships of these depressions and high areas to the ravelin glacis and the horn work ditch are easily seen; however, map analysis suggests the possibility that these depressions may also be related to the early French ditch line. The possibility that the channel connecting the south end of the horn work with the river follows the line of the old French bastion face ditch can be seen in Figure 44. There is also a strong possibility that the depression marking the juncture of the ravelin slope and the east-west depression may represent the northeast shoulder angle of the French west bastion. The high relatively level area may represent an area formerly part of the French rampart at the bastion shoulder. The map correlation is far from perfect, but it is highly suggestive. In 1966 when the matter was considered, it was interpreted as evidence of the Fort Lennox ravelin complex. Combined with heavy public use of this area en route to Fort Lennox from the ferry dock, these uncertainties led to the elimination of this area in the scheme of excavations. Subsequent study of the map correlations and the evidence of sub-surface water movement seen in the water standing in the depression in 1973 are interpreted as an indication that the shoulder of the west French bastion may be preserved here.

The interpretation of the surface depressions surrounding Fort Lennox as evidence of the former French lines is very complex. It should be noted that the part of the French lines actually excavated in 1966 was not marked on the surface. However, some surface depressions do correlate with the location of the French lines when maps are compared (Fig. 44). This relationship is not sufficient to identify these features, but the maps and the surface depressions may prove useful in the future if the search for French features is resumed.

This discussion is focused on possible relationships of the old French works. There are other explanations of some of these surface features. For example, in the area of the possible shoulder of the French lines is the approximate location of a canteen and associated root house (Lee 1966: 2, No. 21). These later structures might well be responsible for the surface features, or at least related to them. Only archaeological excavation can confirm the highly tentative suggestions discussed above.

Ceramics

Introduction

A total of 3,534 ceramic sherds was recovered from these 1966 excavations at Ile-aux-Noix. The pottery includes coarse earthenware, refined earthenware, stoneware and porcelain representative of ceramics made and used during the entire time span of the occupation of the island. A few specimens can be identified as French or American but most of the ceramic artifacts are of British origin. Only two or three restorable vessels were recovered from these excavations in the old fortification ditches and many of the sherds are small.

These specimens, like others collected during the excavations, are mostly from re-deposited contexts with mixed contents. The sherds were taken from a variety of occupational deposits when those levels were utilized as fill for the old fortification ditches. Thus the materials in a stratum of ditch fill may have come from a variety of earlier occupational debris as well as from trash contemporary with the actual filling of the ditch. For this reason there is little point in attempting an analysis of the social meaning of this particular ceramic collection from Ile-aux-Noix. Its primary usefulness is in the chronological interpretation of the ditch fill deposits.

The stratigraphy of the ditch deposits is basically simple although a number of excavation lots representing distinctive layers or lenses of fill were distinguished during the field work. Many of these subdivisions can be combined in major stratigraphic units as discussed in an earlier chapter (see Tables 2 - 6).

The stratigraphy observed can be interpreted by direct comparison with the historical record of events at the site. There is good reason to believe, for instance, that the layers of fill in the fortification ditch were deposited during Period III when Fort Lennox was constructed between 1819 and 1828. Such historical-stratigraphic interpretation may be tested by reference to the artifact contents of the stratigraphic units.

The ceramics provide the best method of dating the stratigraphic units because of the abundance of these specimens and our knowledge of pottery chronology. Although pipe forms are useful tools as well, pipe-stem bore diameter dating is useless because it produces dates earlier than the known occupation of the site. Hence the main focus on this collection of ceramic specimens is on their value as a means of dating layers of stratified ditch fill in order to confirm or reject historical interpretations of the stratigraphy.

As shown in the discussion of the excavated features and historical documents, the fill of the ditches probably came from areas occupied until the 1819 construction of Fort Lennox began. Thus a major complication in the ceramic dating of the ditch-fill layers in excavated features is the fact that these zones probably contain not only potsherds from the period of deposition but also specimens from earlier occupational debris. The potential inclusion of such "heirloom" fragments in later deposits may distort the dating of both ditch fill and the glacis levels above the ditch line. The methods of chronological analysis of the stratigraphy are discussed in detail in another section. One aim of the analysis is to determine the relationship of ceramic formula dates to the stratigraphic sequence of deposits and to experiment with the application of the ceramic formula dating method in chronological study and seriation.

Description and Tabulation

The description of the ceramic specimens is arranged on the basis of major ware groups such as coarse earthenware, fine earthenware, stoneware and porcelain.

The types are listed for descriptive purposes in a sequence based on the ware-type listing suggested by Dorothy Griffiths (pers. com.). The analysis of the stratigraphic distribution of the ceramics employs a chronological arrangement of types based on the sequence of their dates of origin.

The absence of a really detailed identification handbook for ceramics (Walker 1972: 147-8) is keenly felt when the difficulties of identification of all types found in the site are encountered. The identification of the ceramics was based on reference to such work as Noël Hume's A Guide to Artifacts of Colonial America (1970), Eighteenth Century Ceramics from Fort Michilimackinac (Miller and Stone 1970) and other published sources. Examination of specimens in the archaeological laboratory at Louisbourg and in various museum collections was also useful. The advice of Dorothy Griffiths and other members of the staff of the National Historic Parks and Sites Branch was of great benefit. Type numbers listed by South (1972: Fig. 1) are included because the subsequent analysis employs his ceramic formula dating method. The application of that method requires the accurate identification of the ceramic types used (Cleland 1972: 185). It is possible that there are some errors in the identifications which follow, but it is hoped mistakes are minimal.

Coarse Earthenwares

Unglazed Coarse Earthenware

Several specimens of unglazed orange-coloured fabric coarse earthenware were recovered. These sherds are marked by fine striations of wheel throwing on both interior and exterior surfaces. The fabric appears laminated in section and is relatively fine textured with few large aplastic inclusions.

Three sherds appear to be fragments of straight-sided vessels. One has a fragmentary angular profile, possibly the brim/wall juncture. A more complete rim sherd has a rounded, slightly outflared lip and straight walls. One is a split rim fragment, and several other split sherds are present.

The unglazed coarse earthenware bears a resemblance to unglazed specimens recovered at Castle Hill in 1693-1713 French contexts (Grange 1971: 305-12). None of the Ile-aux-Noix specimens can be associated with an undisturbed French occupation deposit. Assuming an 18th-century dating for this ware, it would be possible to use 1750 as a mediam date for formula dating purposes. An alternative is to omit the type from date calculations.

The specimens are listed in Table 7 and in Table 1 of Appendix A. (*See* Figs. 46*b*, *c*, 47*a*.)

Spanish Olive Jar (?)

One split rim fragment appears to be part of the braced collared rim of a Spanish olive jar form. It is the exterior side of an unglazed vessel. Unfortunately the sherd is too small for a positive identification.

The fabric is orange and has been wiped smooth on the exterior which has finger prints impressed lightly in the surface clay. Quartz aplastic inclusions are tiny and infrequent.

The specimens may belong to Goggin's Middle Style (Goggin 1964: 267) dating to about 1580 to 1780. A mid-range date of 1680 is thus indicated for formula dating purposes, unless the specimen is omitted from such calculations. (Fig. 46a.)

Brown/Olive Glazed Coarse Earthenware

A fairly common ceramic type is a coarse earthenware with a reddish to strong orange fabric and glaze ranging from strong yellowish brown to moderate olive. This range of glaze is seen individually on different sherds, but variations from strong yellowish brown to light olive brown are present on a single specimen as well. The sherds can be grouped into six or seven clusters on the basis of glaze colour but probably represent more than that number of vessels. A few sherds have a clear glaze.

There is one large specimen, the base-to-rim side of a large open bowl. It has a flat bottom, curved outflared sides and an overhanging collar-like rim retaining a portion of a pouring spout. Some specimens are pitted and scratched from wear, one base having a series of criss-crossed scratches in the glaze on the interior bottom surface. Much of the glaze has been worn off this specimen through heavy use.

The vessel interiors are glazed as are the exteriors of the rims. Most of the exteriors are unglazed except accidental splashes. In a few cases there are sherds with glaze on both interior and exterior, a treatment associated with the rim of a jar rather than an open bowl form.

A fragment of a large handle implies a pitcher vessel form. One brim edge fragment suggests a plate or pan shape; this specimen is also distinguished by the presence of a wavy trailed line of white slip along the rim. A rim with a flanged or inverted L-shape may be part of another vessel shape. Six flat-bottomed sherds from open bowls are present including the specimen with the intact rim. The nearly complete specimen has an overhanging collared rim; three others have thickened but not collared rims. The rims suggest jar shapes, one brim suggests a plate and one flanged rim is a different indeterminate vessel shape. The handle implies a pitcher form. The remaining sherds are body fragments of indeterminate vessel shapes.

The fabric is coarse, laminated in some examples, with moderate amounts of medium-sized aplastic inclusions and occasional air pockets. The exterior unglazed surfaces are smoothed and bear smeared fingerprints in places; the surface was apparently wetted and smoothed producing a self-slip on some specimens. On others the exterior shows signs of wheel striations and in some cases a slightly darker colour on the surface.

These specimens are similar to French coarse earthenwares from Castle Hill (Grange 1971: 324), Louisbourg (Miller and Stone 1970: 118) and Fort Michilimackinac where they are identified as French-Canadian (Miller and Stone 1970: 56-8). These specimens are also very similar to those from 17th-century contexts in Quebec illustrated by Webster who suggests they could have been made either in France or Quebec (Webster 1971: 9, 41-6).

Most of the specimens were recovered from mixed ditch-fill deposits at Ile-aux-Noix where they were associated with a variety of British ceramics. A few of these specimens were found in deposits thought on stratigraphic grounds to be French features. Thus the association of these probable French ceramics with the early stratigraphic levels may be of significance at Ile-aux-Noix. It should be noted, however, that other coarse earthenwares are very similar to these probable French materials and further excavation in the undisturbed French ditch found near the end of the field season would be highly desirable to increase the sample and obtain further information about the association of this pottery type with the French period at Ile-aux-Noix.

Specimens of generally similar form and decoration are dated 18th century by Miller and Stone (1970: 56-8) and it would be possible to use 1750 as mid-range date for formula dating purposes. However, since the type occurs alone in some contexts at Ile-aux-Noix, a special adjustment (Grange 1973a) of the date may be in order and 1760, marking the mid-point of the French occupation at this site, could be used. The type may also be omitted from formula dating calculations. Whether or not it is included makes little difference in the resulting dates because there is so little of the pottery in most excavation units. Dates for features where the type accounts exclusively for the content are the only ones greatly affected, and those are thought to be French on stratigraphic grounds.

These specimens are listed in Table 7, and in Table 2, Appendix A. (See Figs. 47b-h, 48.)

Plain Glazed Coarse Earthenware

A small quantity of coarse earthenware has a reddish fabric and brown to almost black glaze. Most of the sherds are chips from which much of the glaze has flaked away. One specimen is a flat sherd 12.5 mm thick. The unglazed exterior is probably the base of a flat-bottomed vessel; the interior surface is glazed. The crescent-shaped sherd is broken along a possible coil joint or other defect which must have been partly open during manufacture since some of the glaze is present along the upper edge of the break. Another specimen is a small section of a vessel brim with a thickened rim. On this sherd the upper (interior) surface of the brim is glazed and the glaze extended over the rim and along the edge of the underside of the brim, although most of the exterior was unglazed. The glaze is nearly worn off the rim edge.

The ware is similar to Buckley ware (South's type 47, 1720-75, 1748 mid-range date), but lacks the marbled fabric of that ware; it was probably made in some other location (Griffiths: pers. com.). The 1748 mid-range date can be used in formula date calculations or the type can be omitted.

These specimens are tabulated in Table 7 and in Table 3 in Appendix A. (Figs. 49a, 50.)

Plain Slipware

This group of sherds consists of coarse earthenware specimens with a red-coloured fabric, and a thin layer of white slip on the interior surfaces of the vessels. The slip appears yellowish through the glaze and in one or two cases there are irregular patches of mottled flowing brown in the glaze. On some specimens the exterior is unglazed and on others it is glazed.

The unglazed examples include a flat body sherd with the glaze flaked off the slip in one spot. The two rim sherds both exhibit the latter trait as well. The rim sherds are concave-convex cross-sectioned brims. The white slip extends over the rim and onto the exterior edge of the brim, but is worn away on the rim itself on one specimen except for a small area, which indicates that the upper (or interior) surface was glazed but that the under (exterior) was left unglazed along with the rest of the exterior surface. The glaze line ends at the lip line of the rim. There is a deep groove around the juncture of brim and body on the unglazed exterior. Most of the glaze has flaked away leaving the slip on the upper face of the brim; in places the slip is also flaked away. Patches of brown mottling are present in the glaze.

A second rim is similar except for size and the lack of the groove at the brim-body juncture. Traces of white slip are present on the exterior or underside of the brim but it was not continuous over the edge of the rim. The glaze extends over the rim and onto the edge of the brim exterior giving the rim a brownish colour through the clear glaze on the lip and exterior of the brim. The remainder of the exterior is unglazed.

Another small body sherd has the glazed-over white slip on the interior surface. The exterior has a clear glaze over the red body, producing a brownish tone. Several split body sherds lack the slipped interior portion but are included in this type because of the close similarity of paste and the exterior glaze.

Another specimen is a rim fragment of a vessel with a globular body and an outflaring low rim about 140 mm in diameter. The interior is thinly white-slipped and appears yellow under the glaze, shading into a brownish tone on the unslipped rim. The exterior is also glazed and appears brown with tiny, irregular yellow flecks.

Some faintly similar pieces are illustrated by Miller and Stone (1970: Fig. 26a and d) as 18th-century English and French wares. For formula dating purposes the date range of combed slipware, given by South (1972: Fig. 1) as 1670-1795 with a mid-range of 1733, has been used.

These specimens are listed in Table 7 and in Appendix

A, Table 4. (See Figs. 49b-d, 51a, b.)

Trailed Slipware

Specimens included in this type have a red fabric and are decorated with narrow trailed lines of white slip laid on the surface beneath the clear glaze. The appearance is reddish brown with yellowish lines through the glaze. The interior surfaces are glazed all over; the exteriors are unglazed except for some splashes or irregular spots.

The vessel forms appear to be large, open bowl-like shapes with a pronounced concave-convex brim and thickened rim edge. Base fragments indicate a flat bottom with straight outflared sides.

The slip decorations are in the form of curvilinear trailed lines and isolated dots or blobs of slip. About half of the specimens included in this group lack the slip decoration, probably because the sparse application of the slipped patterns leaves some sherds free of traces of the decoration. Such plain sherds are included on the basis of similarity in fabric colour and glaze.

These specimens resemble Metropolitan slipware (Noël Hume 1970: 103) and more closely the Staffordshire slipwares (Noël Hume 1970: 136) but they could have been made in other "country" potteries (Griffiths: pers. com.). It is also possible that they could have been made in America since they resemble the slip-decorated red ware illustrated by Watkins (1950: 21-4). Such wares may have been made as early as the 1670s and were manufactured throughout the 18th century (Watkins 1950: 13-5; 48-61). Thus the use of the 1733 mid-range date for Staffordshire ware in formula dating is reasonable regardless of the precise identification of the pottery.

These specimens are listed in Table 7 and in Table 5 of

Appendix A. (See Figs. 49e-i, 51c-e.)

Combed Slipware

Two sherds have been identified as combed slipware. They have a buff fabric with small aplastic inclusions. Seen in section, the exterior surface has three layers of slip. The first is a thin layer of white slip. The middle layer is brownish red slip which is a continuous layer. The uppermost layer is a thin white slip which is discontinuous. The brown ground colour shows through on the surface where the uppermost white slip layer is absent. The surface has a yellowish colour (2.5Y) through the glaze. The glaze and slip layers have a tendency to flake away from the fabric. The vessel form is indeterminate from these small sherds. The type is assigned number 56 by South (1972: Fig. 1) with a date range of 1670-1795 and a mid-range date of 1733.

The Tables are listed in Table 7 and in Table 6 of Appendix A. (See Fig. 51f.)

Fine Earthenwares

Plain White Delftware

Only a few examples of tin-glazed earthenware were recovered from the site. These specimens have a buff fabric of fine texture and an opaque faintly bluish white glaze. Three specimens lack decoration and have been classed as examples of plain white delftware, type 65 (South 1972: Fig. 1) with a date range of about 1640-1800 and a 1720 median date.

Vessel forms are indeterminate except one specimen which is part of a vessel with a high wedge-shaped footring.

The specimens are listed in Table 7 and in Table 7 of

Appendix A. (See Figs. 52a, 53a.)

Decorated Delftware

One specimen which also has a buff fabric and bluish white ground bears traces of a blue painted design. It has been classified as an example of South's type 49, decorated delftware (1972: Fig. 1) of the 18th century, and has a 1750 median date.

Both vessel form and complete design are indeterminate due to the small size of the sherd (Fig. 52b).

"Clouded" Creambodied Earthenware

A small number of sherds have been identified as "clouded" wares (Noël Hume 1970: 123), South's type number 36 (South 1972: Fig. 1), with a date range of 1740-70 with a 1755 median date. These specimens have a creamware body and coloured glazes. Five examples are brown tortoiseshell glaze. Three of these are small body sherds of indeterminate vessel form. One is a rim thickened with a rounded band around its exterior. One brown specimen is a fragment of a teapot (?) lid. It has a slightly outflared flange on the bottom while the top is uncurved at the outer rim. It has a central flat disc-like knob.

Two specimens are greenish grey variegated glaze. One is a body sherd of indeterminate form. The other is the rim of a vertical-sided vessel with a single row of moulded dots below the lip on the exterior side.

These specimens are tabulated in Table 7 and in Table 8 in Appendix A. (See Figs. 53b-e, 54a, b.)

Yellow Glazed Creambodied Earthenware

One small split body sherd of refined earthenware with a bright yellow clear glaze was found. The sherd is too small for completely satisfactory identification. It is probably an 18th-century creamware "made by such factories as Melbourne, Derby or the lesser Staffordshire factories" (Dorothy Griffiths: pers. com.).

The specimen is listed in Table 7 and in Table 8 in Appendix A. (*See* Fig. 54*c*.)

Green Glazed Creambodied Earthenware

A very small sample of sherds with a distinctive green glaze was also present. The glaze, a strong yellowish green (10Gy 5/8) is on a typical creamware fabric. Both the interior and exterior surfaces are glazed.

The body sherds are of an indeterminate vessel form. One specimen is a flat-bottomed vessel with outflared walls. It has a rounded footring at the perimeter of the base.

These four sherds have been identified as the green glazed creambodied earthenware introduced about 1759 (Noel Hume 1970: 124) and listed as type number 33 by South (1972: Fig. 1) with a date range of 1759-75 and a median date of 1767.

These specimens are listed in Table 7 and in Table 8 in Appendix A. (*See* Fig. 54*d*.)

Creamware

A large quantity of creamware was recovered from these operations in the site. These have a cream-coloured fabric and a clear glaze. In some cases the glaze appears greenish in deeper pools, a creamware characteristic (Noel Hume 1970: 124). Some examples lack that glaze pool characteristic and are distinguished from refined white earthenware by their contrasting light yellow or cream-coloured appearance and irregular glaze surface texture.

Several vessel forms are recognizable. One is a relatively thick large oval serving platter with a plain brim. Among the sherds are those of plate brims with a scalloped edge contour and others with a possible octagonal shape. Most plate brims are slightly concave and the majority are plain. A few examples of the moulded feather edge design are present as are some with groove and dot patterns. Many of the plates apparently had flat bottoms without footrings while smaller vessels had footrings of a variety of forms. The low rounded footring was the most common. One flat bottom bears a circular stilt mark 5 mm in diameter. Lips are mostly rounded or rounded-concave on the brim surface. One example with a small flange-like lip and another with an inward beveled rolled lip were found.

Other vessel forms include a possible teapot, cups or saucers, a probable chamber pot and one pedestal footed specimen.

The creamware appears to fall into that class of material termed creamware or Queens Ware (Noel Hume 1970: 124) and are similar to examples from Castle Hill (Grange 1973a: 351-6) and other sites. Introduced about 1762 (South 1972: Fig. 1), it is not surprising that this popular ware should appear at Ile-aux-Noix. Since the Period I occupation at Ile-aux-Noix ended in 1761, the presence of creamware is a significant horizon marker for Period II and later features at the site, and its absence could be of significance in the identification of Period I features if other corroborative evidence was also available. South (1972: Fig. 1) uses the date range 1762-1820 with a median date of 1791 for this type. Cumulative seriation study suggests a modal date of 1770 can be used for ceramic formula dating (Grange 1973a).

These sherds are listed in Table 7 and in Table 9 of Appendix A. (See Figs. 53n, 55, 56.)

Undecorated Pearlware

A number of undecorated pearlware sherds were present. These are identified by the glaze characteristics: the bluish colour in the crevasses where the glaze is thickest, such as around the footring, and the bluish colour of the ground (Noël Hume 1970: 130). In addition to the bluish tint, the glaze has a fairly rippled appearance characteristic of glazes prior to about 1820 (Coysh 1970: 110) or the wet beach sand effect mentioned by Walker (J. Walker 1971: 125).

Most of these specimens are fragments of vessel bases or body sherds; few rim fragments are present. These specimens are probably body sherds of vessels which had decorated rims such as the blue shell-edge ware. The most common variety of footstand is the single footrim (Coysh 1970: 8) formed by an indentation or inset of the centre part of the base. One flat-bottomed vessel without a footring is present and one or two examples of low rounded footrings as well, but the indented base is by far the most common variety. One small vessel bottom with a high wedge-shaped footring was also found. The general vessel form suggested by most of the sherds is the plate.

Blue Shell-Edge Pearlware

Blue shell-edge decorated pearlware is the most common of the varieties with shell-edge decoration. The blue underglaze colour ranges from dark blue (5PB 3/10) to light blue (5PB 6/8 where darkest). The blue underglaze colour is applied in a band along the rim. In this are moulded indented lines approximately at right angles to the rim. These range from wavy lines of varying length to moderately well-defined lines which are parallel and straight or all curved in the same direction. The most degenerate examples have very faintly defined indented lines and in one case no indentations but blue colour feathered from the rim to simulate the moulded and painted decoration. A rare example of the moulded decoration consists of groups of three indented lines, a central straight longer one and one on each side, shorter and curving away from the central line.

The specimens are all fragments of plate brim edges of scalloped form. Both large and small scallops are present. A few of the sherds have a more distinctly bluish tone in the fabric. The specimens are associated with a variety of edge moulding. The variation does not exhibit a pronounced stratigraphic distribution.

These varieties could reflect the retention of the shell-edge decoration of the pearlware period on whiter-appearing later refined white earthenware specimens in which the bluish tone in the glaze had been eliminated.

The specimens are listed in Table 7 and in Table 11, Appendix A. (Figs. 57d, e, 58a-g.)

Green Shell-Edge Pearlware

The green shell-edge pearlware examples are all examples of plate brims with scalloped rims. There are moulded grooves, all parallel, which are well to moderately well defined on the upper surface at the rim edge. Green underglazed banding around the rim is of irregular width depending on its relationship to swells and troughs of the scalloped edge. The underglaze decoration is in two shades of green, strong green (5G 5/8) and dark green (5G 3/4) measured in the darker areas formed by the thicker glaze and colour in the moulded decorative grooves.

The largest specimen includes the base of a plate with a single or indented bottom footring. In the centre of the bottom is an impressed anchor mark.

South includes the green and blue shell-edge wares in the same type 19 category (South 1972: Fig. 1).

These specimens are listed in Table 7 and in Table 11 of Appendix A. (See Figs. 57f, 58h, i.) The type is given a 1780-1830 date range and a median date of 1805 by South.

Red Shell-Edge Refined White Earthenware

Two sherds in the degenerate shell-edge style have a red shell-edge band around the edge of the brim. The rim is smooth and round, the lip is rounded and the shell-edge effect is created by darker vertical coloured strips where the underglaze enamel has pooled in faintly impressed lines. The red colour itself has been applied in a single paint stroke applied along the rim. In a few cases the paint has seeped below the rim band into the lower projections of the moulded edge lines, but for the most part the shell-edge effect results from pooling of the red colour in depressions within the painted band area. Both fragments are from the brim of a plate.

The glaze lacks the bluish colour in thicker areas and may be better classified as a refined white earthenware rather than pearlware.

The 1820-1900 date range of whiteware (South 1972: Fig. 1) may be applied to this type. However, its similarity to the blue and green shell-edge decorations suggests an earlier date be used for formula purposes and 1830 is here estimated.

These specimens are listed in Table 7 and in Table 11 of Appendix A. (See Figs. 57g, 58j.)

Moulded Embossed Refined Earthenware

Several examples are present of pearlware plates with embossed moulded designs around the rim and on the brim edge. In addition to the moulded designs, these examples are also painted with an underglaze blue, green or red band around the rim. The painted band partially overlies the moulded designs. Moulded designs were often of great variety (Noël Hume 1970: 131) of embossed patterns.

These specimens found at Ile-aux-Noix include curvilinear moulded patterns with blue bands on simple round rim outlines. A similar pattern on a straight rim is from a large serving vessel. One specimen with a scalloped rim has a moulded floral design and a red painted band. Another example with a blue band has a row of embossed dots; a leaf pattern, is also found on several specimens.

The fabric is similar to the pearlware specimens identified at the site but the glazed appearance is white, lacking the bluish tint of pearlware in deeper pooled glaze areas. The specimens may be better classified as refined white earthenware than as pearlware.

South (1972: Fig. 1) dates moulded embossed pearlware in the range 1800-20, while Walker (J. Walker 1971: 110) indicates such decorations were used on 19th-century ceramics.

These specimens are listed in Table 7 and in Table 12, Appendix A. (*See* Figs. 57*h*, *i*, 59*a*-*f*.)

Blue-Banded Rim Refined White Earthenware

Several examples are present of plate brim edges with a simple blue underglaze band painted around the edge of the rim. These are similar to some of the degenerate blue shell-edge decorations except that they lack any simulation of the shell-edge pattern. The painted bands are 5 mm to

8 mm in width and are not uniform in colour through the entire band. One example has a single paralleled line below the band.

The fabric is refined white earthenware and the glaze is white, lacking any bluish tint in the deeper hollows in the grooves or footring edges.

On the basis of fabric this type would belong with the whiteware category (South 1972: Fig. 1) with a date range of 1820-1900. The 1860 median date seems too late and an estimated 1830 date is used in formula date calculations here.

These specimens are listed in Table 7 and in Table 13, Appendix A. (See Figs. 60a, 59g.)

Undecorated Refined White Earthenware (Blue Tint Glaze)

A small portion of the refined white earthenware sherds exhibit a bluish tint in the deeper pools of glaze in areas adjacent to the footrings and similar locations. These sherds have been distinguished from the bulk of the refined white earthenware because of the blue colour. These sherds differ from the undecorated pearlware in that the glaze is whiter and shows a bluish tint in the glaze pools only and not in the general glaze colour, a distinction suggested by Lynne Sussman (1973: pers. com.).

Vessel forms represented in this category are similar to those seen in the other white refined earthenware. Plates with concave brims and low rounded footrings or footstands formed by a basal indentation are most common. A bowl-like form with a low pedestal base is represented as is one tankard-like base. A smaller bowl with an outflared footring was also present.

The material would appear to be in the whiteware category of 1820-1900 (South 1972: Fig. 1), but the blue tint to the glaze is a distinctive feature, a trait present until about 1860 (Sussman: pers. com.). Thus a date range of 1820-60 is tentatively assigned and a median date of 1840 is used in formula date calculations.

These specimens are tabulated in Table 7 and in Table 14 in Appendix A. (See Figs. 60b-g, 61.)

Refined White Earthenware

A large number of sherds were classified as refined white earthenware. These specimens have a white fabric and clear glaze but lack the blue colour of pearlware in crevasses where the glaze pools (Noël Hume 1970: 130-1). There is considerable variation in the specimens included in this category. Most specimens exhibit crazing of the glaze and most commonly the glaze spills off in small chips, although uncrazed specimens and unchipped specimens are also found. Sherds are often split and generally small. Vessel thickness is variable but most are relatively thin-walled. Moulded footrings and some specimens with portions of moulded designs are present, but most are plain.

Plates, cups, saucers and bowls are represented. Flat bases, indented bottoms and low rounded footrings are all present, the latter being the most common footstand form.

One sherd is impressed with a maker's name but the surviving portion of the mark is illegible. Another basal sherd bears an impressed numeral 12.

South gives the whiteware category the type number 2 (South 1972: Fig. 1), with an 1820-1900 date range and a median date of 1860.

These specimens are listed in Table 7 and in Table 15 of Appendix A. (See Figs. 61, 62.)

Willow Pattern Transfer-Printed Refined White Earthenware

Willow pattern sherds are classified on the basis of fragments which include elements of the distinctive willow pattern, particularly in the form of trees, parts of pagodas, bridges and birds (Noël Hume 1970: 130). Certain sherds with distinctive border patterns are also included since they are the same as border elements which appear on sherds with pictorial willow design. Vessel forms in the willow pattern decoration include two base sherds with a footstand created by an indented bottom and one flat-bottomed vessel without a footstand. Rim sherds are plate or bowl marly edges, one with a plain rim and rounded lip and another with a scallop and a rounded tip. The single scallop on a large rim segment indicates such indentations were widely spaced on this vessel. One small saucer was identified by the edge pattern as light blue willow pattern. Base diameters are about 160 mm at the footring or stand, and estimated rim diameters are 260 mm. Most examples are too small for shape identification.

Willow pattern transfer-decorated refined white earthenware is given type number 10 by South (1972: Fig. 1) with a date range of 1795-1840 and an 1818 median date. A cumulative seriation modal date of 1825 is used in these formula calculations (Grange 1973a).

These specimens are listed in Table 7, and in Table 16, Appendix A. (*See* Figs. 63*a*, 64.)

Blue Transfer-Printed Refined White Earthenware

A quantity of blue transfer-printed refined earthenware was recovered from these operations. A small portion of this material could be identified as belonging to the willow pattern, despite the fragmentary condition of the sherds. The remainder of the specimens of this type represent portions of a variety of scenic and/or floral designs as well as a small number of geometric decorations. Some examples of sponge decoration and flowing blue prints were also present. A small quantity of the blue transfer-printed ware is printed in a very light or pale blue colour and has been segregated on this basis. Blue transfer-printed ware was recorded in the possessions of Captain Henry Byng, Royal Navy, in his quarters at Ile-aux-Noix in the late 1820s (Collard 1967: 116-7).

The most common variety of blue transfer-printed ware at the site was in dark blue printing with a variety of floral or scenic design elements. Decoration is applied to either the interior or exterior or to both surfaces depending upon the vessel form involved. Most of the sherds are too small to attempt a detailed reconstruction of vessel forms.

Plate brim edges are the most easily identified vessel form. Several of these have scalloped rim outlines. Two specimens with flanges, probably parts of lids, were present. Wedge-shaped, low rounded and indented base footrings were all present.

One specimen exhibits a transfer-printed design over a trace of a moulded embossed pattern of indeterminate form.

South dates transfer-printed pearlware 1795-1840 (South 1972: Fig. 1), but most of these examples from Ile-aux-Noix are on a refined white earthenware rather than pearlware, and probably date after 1820. Only a few sherds may be pearlware with a bluish tone rippled surface glaze. Walker (J. Walker 1971: 116) indicates a period of major popularity between 1790 and 1850, and Wakefield estimates the height of its popularity at about 1830 (1968: 1395).

The peak of popularity of the blue transfer-printed wares was probably between the years 1816 and 1830 judging from the number of factories producing it (Hughes 1968: 1155). An adjusted modal estimate for ceramic formula dating purposes is 1830.

These specimens are listed in Table 7, and in Table 17 of Appendix A. (*See* Figs. 63*b*-*e*, 65.)

Light Blue Transfer-Printed Refined White Earthenware

A number of sherds with transfer-printed decorations in distinctly light blue colour were segregated from the darker blue specimens. These pale coloured sherds tend to have more delicate and fine designs.

Vessel forms include indeterminate moulded shapes, plates with scalloped rims, bowls, and one octagonal vessel and other forms. Indented bottom footstands and low rounded footrings are present.

The designs are mostly floral, although scenic views are also present. Two are marked but the mark is too fragmentary and blurred to identify.

Collard (1967: 117-8) indicates that the lighter blue colour, along with various other coloured transfer printing, was becoming more popular in the 1820s and 1830s. These specimens were segregated on this basis; later a stratigraphic distribution study was made. The lighter blue and miscellaneous coloured transfer-printed specimens tend to be found in later stratigraphic contexts at the site.

South (1972: Fig. 1) does not distinguish this category of transfer-printed ware by separate type number.

An estimate modal date of 1840 was used in formula date calculations in this paper.

These specimens are listed in Table 7, and in Table 18 of Appendix A. (*See* Figs. 63*f*-*l*, 66.)

Miscellaneous Coloured Transfer-Printed Refined White Earthenware

Several examples are present of transfer-printed pearlware printed in black, red, green, brown, purple and multi-colours. They are described in the following tabulation. Collard (1967: 117-8) indicates that such colours were a later variant of transfer-printed decoration on pearlware and the distribution of these specimens and the lighter blue examples in later stratigraphic contexts at Fort Lennox would support this contention.

Vessel forms are difficult to determine from the small sherds available for study.

Some makers' marks are present.

The mark "H & .." "Tunst..." beneath a bar is present on one green transfer-printed sherd.

Another green coloured specimen has remnants of a maker's mark enclosed within a scroll. The words include "Bird...." and "R & W...."

A red printed specimen has an impressed mark on the bottom consisting of "Dav..port" arranged in an arc. Below Davenport is an impressed anchor.

The word WORLD is part of a mark on one brown specimen.

A brown printed specimen bears the printed word "sym..to..", but the "m" is questionable. A second brown example bears part of the letter G, and a scroll. Coloured transfer-printed wares appear to have been most popular during the 1830s and 1840s (Wakefield 1968: 1395).

An estimated 1840 date was used in formula calculations.

These specimens are listed in Table 7, and in Table 19 of Appendix A. (See Figs. 67, 68, 69.)

Sponge-Printed Refined White Earthenware

A few examples of refined white earthenware were decorated with a blue sponge-printed design. Most were sherds too small to identify vessel form, but one is the bottom of a small bowl with a low pedestal-like footring; another example may be a plate brim. One rim is red coloured.

A date range of 1840-70 with an 1855 mid-range date is suggested on the basis of similar specimens observed in museum exhibits. Walker (J. Walker 1971: 134) indicates a first half of the 19th-century date.

These sherds are listed in Table 7, and in Table 20 of Appendix A. (*See* Fig. 70*e*-*h*.)

Flowing Blue Printed Refined White Earthenware

A few examples of transfer-printed flowing blue refined white earthenware were found. This type included one specimen which was part of the lid and knob of an octagonal shaped vessel cover, but the other sherds were of indeterminate vessel forms.

Flowing blue was popular in the mid-19th century (Collard 1967: 118, 123) and a mid-range date of 1850 is used for formula dating purposes.

These specimens are listed in Table 7, and in Table 20 of Appendix A. (*See* Fig. 70*a*-*d*.)

Blue Hand-Painted Refined Earthenware

A small number of refined white earthenware sherds with clear glaze and designs hand-painted in blue were present. The category includes only specimens with blue decoration, although it is possible that some of the sherds included could be small parts of polychrome decorated vessels.

Vessel forms are indeterminate due to the small size of the sherds. Rims have simple rounded lips. The decorations are mostly floral designs although two possible Chinese scenic motifs are present. Small sherd size precludes further description.

The fabric is white; the glaze is clear and the ground colour appears white on half of the specimens while the others have a bluish cast. The fabric and glaze combination suggests that the specimens belong to the refined white earthenware category rather than to the pearlware type number 17 dated 1780-1820 by South (1972: Fig. 1). An estimated date adjustment of 1830 is used here in formula dating calculations.

These specimens are listed in Table 7, and in Table 21 of Appendix A. (*See* Fig. 71*a*, *b*.)

Polychrome Painted Refined Earthenware

Refined earthenware sherds with an underglaze decoration in multiple colours was fairly common. The fabric appears white and the glaze is clear, though some specimens are present with a bluish tinge to the glaze which occurs in deeper pools.

The floral designs are either hand-painted or stenciled. The most common colour combination is red, green and blue. Some examples in blue, green and orange or brown and yellow combinations are also present. A common feature is the presence of a thin painted line or stripe around the rim just below the lip. On larger sherds this trait can be associated with the floral decorations. Smaller specimens often bear only the stripe but are included in this category.

Plates and bowls appear to be the most common vessel forms, but the sherds are generally too small to permit the reconstruction of vessel shapes.

These specimens probably belong to a late variety of pearlware or early whiteware, and are dated according to South's type 4 category between 1820 and 1840 with a mid-range date of 1830 (South 1972: Fig. 1).

These sherds are listed in Table 7, and in Table 22 of Appendix A. (*See* Fig. 71*c*-*j*.)

Turner Ironstone (?)

One refined earthenware or ironstone sherd is a flat vessel bottom fragment with an impressed maker's mark. The mark consists of a simple impressed name, TURNER, beneath a tripartite feather symbol, probably ostrich plumes or the three feathers of the Prince of Wales. The mark is slightly blurred. The mark may be identified as that of John Turner (Turner & Co.), Lane End, Staffordshire, of about 1762-1806 (Godden 1971: 96). Godden indicates Turner had a patent for an ironstone body in 1800 (*see also* Collard 1967: 125-6), and if this sherd is properly identified, its inferred time range would be 1800 to 1806; a mid-range date of 1803 has been used for formula dating purposes.

This specimen is listed in Table 7, and in Table 23, Appendix A. (*See* Fig. 72.)

Ironstone, Blue Transfer-Print

One rim sherd of ironstone with a blue (7.5PB 3/10 deep purplish blue) transfer-print decoration was present. The rim is from an indeterminate vessel form. It has a slightly everted rim. There is a blue band just below the rim and a series of chevrons beneath the band. In the open parts of the chevrons is a row of short horizontal signs. This pattern is present around the rim on both interior and exterior. On the exterior there are traces of additional decoration on the vessel body but these are too fragmentary to describe. The blue line is thick.

South designates the ironstone ceramics as type number 3 (South 1972: Fig. 1), date range 1813-1900 with 1857 the median date.

These specimens are listed in Table 7, and in Table 24 of Appendix A.

Ironstone, Black Transfer-Print

Two sherds of ironstone are decorated on both interior and exterior with black transfer-printing. The designs are foliate. One sherd is part of a marly edge; the other a slightly everted rim with a rounded lip.

These specimens are listed in Table 7, and in Table 24 of Appendix A.

Ironstone Brown Transfer-Print

This single sherd is a body fragment of an unknown vessel form. It bears traces of a brown transfer-print decoration of foliate design. It is not the same decoration or ware as the remainder of the brown transfer-printed material.

This sherd is listed in Table 7, and in Table 24 of Appendix A.

Dunn, Bennett & Co. Brown Transfer-Printed Ironstone

A large number of sherds of brown transfer-printed ironstone pottery were recovered from a single operation. It is obvious from the glaze, shape of footrings and from the transfer-printed design, that all of these sherds represent fragments of a set of tableware which included plates, cups, saucers, bowls and serving vessels.

The identification is based on four marked sherds. None is a complete mark, but together they provide almost the entire mark which was transfer-printed in brown on the bottom of the plates. There are sufficient fragments to indicate the word BRAMBLE was at the top of the mark, an apt description of the pattern. Beneath the word BRAMBLE on three sherds appear the following: "..RIAL SE....," "SEMI..." and "...I CHINA". Reconstructed these probably read "....RIAL SEMI CHINA." Judging from the spacing, assuming BRAMBLE was centred, there must have been more letters or a word preceding the "....RIAL SEMI CHINA." In the centre of the mark is a conical beehive, with bees, beneath which the words TRADE MARK appear in a rectangular box. Beneath that are the words DUNN BENNETT & CO. Below that is BURSLEM and finally ENGLAND.

This is the mark of Dunn, Bennett & Co. which dates from about 1875 to the present (Godden 1971: 66). The initials D.B. & Co. and the beehive were used early, while the word LTD. was added to the mark in 1907 (Godden 1971: 66). This leads to the inference that the mark and sherds date between 1875 and 1907. The additional word, ENGLAND, would appear after 1891 due to the McKinley Tariff Act (Sussman: pers. com.), thus the range may be 1891-1907. The mid-range date of 1891 appears to be an appropriate one to use for formula dating purposes.

Unmarked sherds are included in this category on the basis of similarity of the transfer-printed decoration. Other sherds are included on the basis of footring form despite the lack of printed decoration. On the flat-bottomed sherds there is a low rounded footring; inside the circle of the footring are two concentric raised rings 11 mm in from the footring and 10 mm apart. On the outside of the footring are two more low raised rings, 5 mm from the footring and 3 mm apart. This distinctive pattern can be recognized on some sherds, permitting their inclusion in this type despite the lack of printed marks.

These specimens are listed in Table 7, and in Table 25 of Appendix A. (*See* Figs. 73, 74, 75.)

Stoneware China Co., St. Johns, P.Q., Ironstone

The third maker's mark present on the white ironstone is a transfer-printed symbol within a raised encircling ring on the vessel bottom. There is a central royal arms, lion, unicorn and crown mark surmounted by the words, "Stone Chinaware Co." Below the mark is "St. Johns, P.Q." Two examples of this mark are present. This company was founded in 1873 (Collard 1967: 281). The mark is printed in brown which may be an indication of relatively late date (Collard 1967: 187). The company was out of business by 1899 (Collard 1967: 290). Sherds bearing this mark must date between 1873 and 1899 and an 1886 median date is used in formula calculations.

Unfortunately the fragmentary nature of the specimens precludes a complete association of all of the ironstone pottery with these or other makers. The only attributions of unmarked pottery which can be made with any assurance are a few which can be based on identity of footrings and glazes.

These specimens are listed in Table 7, and in Table 26 of Appendix A. (*See* Figs. 76*a*, 77.)

Ironstone, Plain White

A number of refined earthenware sherds classified as plain white ironstone are listed in this group. The fabric of these specimens and those categorized as refined white earthenware is not particularly different in texture, colour or hardness. There is, however, a distinctly bluish colour difference in the glaze on these sherds classified as white ironstone. The sherds tend to be somewhat thicker than those of white earthenware, although the ranges overlap.

The specimens are mostly plain though some with traces of moulded designs are present.

Vessel forms present include saucers, cups with handles, and flat-bottomed vessels, probably plates.

South (1972: Fig. 1) lists these ceramics as type 3 with a date range of 1813-1900 and a median date of 1857 which is used in formula calculations.

The specimens are listed in Table 7, and in Table 27 of Appendix A. (*See* Figs. 76*b*-*f*, 78.)

Banded Yellow Ware

A number of earthenware sherds have a buff to cream coloured fabric and a clear glaze which gives them a deep yellow colour (approximately 2.5Y 6/8). Most of these sherds are plain, but some have annular bands of decoration in white slip ridges which encircle the vessel. Two examples have broad white bands near the probable rim area. Two others have broad white panels over which a sponge or fern-like pattern has been applied in blue. It is likely that the undecorated sherds merely came from undecorated portions of vessels. Most of the specimens are the same yellow colour on both interior and exterior but three with a white slipped interior and yellow exterior are present.

Two additional specimens are identical in fabric and colour but are moulded in a simulated basket weave pattern. These are among the examples with the white interior.

Some of these sherds are similar to the drab yellow ware with light blue bands and raised white ridges made in America and England into the present century (Noel Hume 1970: 131). The specimens are very similar in appearance to those identified as yellow ware in the Bennington Museum and dating to about 1849-58 (Barret 1958: 108). Griffiths (pers. com.) suggests including these with the banded wares. A date of 1850 is used in formula calculations.

These specimens are listed in Table 7, and in Table 28 of Appendix A. (See Figs. 76a, b; 79a-c.)

Annular Decorated Refined White Earthenware

Several examples of refined white fabric earthenware decorated with coloured slip bands are present. Some of the mocha ware in the following section probably had such annular decoration but is segregated on the basis of the mocha design.

The annular decorations include polychrome combinations of blue, brown and white or two shades of brown and white. There are also examples with single colour bands of light blue on white (2.5PB 6/8) or dark greenish yellow (7.5Y 6/7) and moderate olive green (7.5GY 4/4). One specimen has turned lines, brown splotchy painting and a sprig decoration. The decorative bands are often in colour as raised ridges over the ground, but turned grooves are also utilized.

The type is similar to that described by Noël Hume (1970: 131) and given type number 13 by South (1972: Fig. 1) with a date range of 1790-1820 for examples on pearlware. The specimens here appear to be on refined white earthenware rather than pearlware, and the period of popularity of banded wares between 1830 and 1870 (J. Walker 1971: 133) appears to be a more appropriate range for the Ile-aux-Noix material. Consequently, a median date of 1850 is used for formula dating purposes.

The specimens are listed in Table 7, and in Table 29 of Appendix A. (See Figs. 76c, d; 79e-i.)

Mocha Ware

A few sherds could be positively identified as mocha ware on the basis of the distinctive fern-like decoration (Noël Hume 1970: 131). Some of these sherds also bear traces of blue and brown annular decoration; it is likely that some of the specimens from the same operations and lots classified in the annular ware category are parts of these mocha ware vessels. The fragmentary nature of the pottery prevents a positive association.

The fabric is white. On one rim there are brownish grey raised bands on a white ground below the rim. The mocha decoration is on a strong brown (2.5YR 4/7) broad band. Six sherds exhibit these combinations as parts of them. One specimen has the mocha decoration on a brownish orange ground (5YR 5/8) but the remainder of its decoration is missing. One tiny fragment has the mocha decoration on a white ground with traces of blue while another combines white, dark orange-yellow areas and a yellowish panel on which the decoration occurs.

The most common vessel form appears to be a bowl. South numbers the type 6 (South 1972: Fig. 1) with a 1795-1890 date range and a median date of 1843.

These specimens are listed in Table 7, and in Table 30 of Appendix A. (See Fig. 79d.)

Unidentified Brown Glazed Refined Red Earthenware

A few sherds of a hard fired earthenware with a fine to moderate granular red fabric with tiny sand aplastic inclusions were recovered. These sherds have a lustrous reddish brown (10R) colour through the clear (?) glaze on both interior and exterior surfaces. One specimen bears a single line of white slip decoration. The vessel forms are indeterminate except for one possible teapot spout fragment.

The specimens are listed in Table 7, and in Table 31 of Appendix A. (See Fig. 80b.)

Glazed Refined Earthenware

Two sherds of a moderately coarse earthenware have a clear glaze over the fabric giving a surface appearance of strong yellowish brown (7.5YR 5/7). The paste is granular and has sparse tiny aplastic inclusions. Both the interior and exterior have a thin clear glaze surface. The vessel form is unknown due to the small sherd sizes. One specimen has moulded gentle ridges dividing part of the interior into panels. The other sherd has parallel ridges on the exterior, in low relief, possibly turned.

These specimens are listed in Table 7, and in Table 31 of Appendix A. (*See* Fig. 80*a*.)

Cyples Ware (?)

Four sherds were initially identifed as South's type 29, Jackfield ware (South 1972: Fig. 1). These specimens have a fine reddish to grey body with a lustrous black glaze (Noël Hume 1970: 123). Three sherds are body fragments of unidentifiable vessel form. One specimen is a fragment of a moulded spout with a row of moulded dots just below the rim.

All of the sherds are thin. The fabric of the teapot is different from that of the three body sherds, being greyer in colour, and fired to a higher temperature since it is nearly vitrified. The three small body sherds are somewhat more orange in fabric colour.

These specimens are more likely Cyples ware 1820s-1840s (Griffiths 1973: pers. com.) in contrast to the earlier date of the Jackfield material, and a date of 1830 is used in formula date calculations here.

These specimens are listed in Table 7, and in Table 32 of Appendix A. (*See* Fig. 80*c*.)

Unidentifiable Burned Earthenware

A number of earthenware sherds were burned and thus altered so that a proper identification could not be made. Most of these appear to be creamware, pearlware or whiteware specimens. They are listed in Table 7, and in Table 33, Appendix A.

Stonewares

French Stoneware (?)

One body sherd of stoneware is a distinctive reddish grey. Throwing rings are easily distinguished on the interior surface while there are traces of finger prints and wiping striations on the exterior. The interior is unglazed. The exterior is glazed though not having the pebbly surface of salt-glazing. The glazed surface is a moderate brown (7.5YR 4/5). The glaze, although not salt-glaze, appears to be the result of an alteration of the surface during firing rather than an application of glaze. In its general characteristics the specimen appears to be very similar to French stoneware of Louisbourg (Lynch 1968) and Castle Hill (Grange 1971: 357), although it is a lighter brown colour than those examples. Despite these minor differences, the compact fabric and general appearance and "feel" are sufficiently similar to permit its tentative identification as French stoneware. Unfortunately the specimen is from a mixed context and is not associated with a French feature.

Lynch (1968) discusses such stoneware as being of early 18th-century date. Assuming the identification as correct, a date of 1760 can be used for formula dating purposes at Ile-aux-Noix. The single sherd can also be omitted from such calculations. In any case, one sherd does not significantly affect the dating results.

This specimen is listed in Table 7, and in Table 34 of Appendix A. (See Fig. 81.)

Westerwald Salt-Glazed Stoneware

One rim fragment of a Westerwald grey salt-glazed stoneware chamberpot was recovered. The specimen is a rim fragment of the proper size, shape and diameter for the chamberpot identifiction. The specimen is South's type 77 (South 1972: Fig. 1) although for dating purposes the chamberpot form chronology is the same as that for type 44 (South 1972: Fig. 1) with a date range of 1700-75. The median date of 1738 is corrected to a 1755 modal date (Grange 1973a) for formula dating purposes here. (Fig. 82.)

Brown Stoneware, 18th-Century

Several specimens are grouped together as examples of brown salt-glazed stoneware of the 18th century. One of these is a fragment of the flanged lid of a large vessel, possibly a chamberpot. The fabric is grey in colour. Interior striations indicate turning of the lid during manufacture. The exterior of the lid is marked by moulded raised rounded panels and a roped design. The interior of the lid and the inner side of the flange (to its lip midline) are thinly glazed or washed a strong yellowish brown (7.5YR 5/7). The exterior side of the flange and the under side of the lid rim are grey and salt-glazed over the fabric. The upper surface of the lid has a flat rim 22 mm wide. Towards the centre, the lid becomes dome-shaped and here the rounded moulded decoration is present, with its encircling twisted rope design. The top of the dome's lid is divided into rounded lobed panels and this part has been given a dull brown wash or glaze of varying thickness which ranges in colour from strong brown (5YR 4/5) to moderate brown (5YR 3/3). The grey glaze of the upper surface is crazed but also has the pebbly appearance of salt-glazing.

Two other sherds of greyish coloured salt-glaze appearing stoneware are similar in appearance to the lid, but the fabric is somewhat darker coloured. The glaze has a faintly brownish tinge. One specimen is a body sherd of a vessel with a rounded but otherwise indeterminate form. The other is the base of a large storage container with a flat bottom and vertical walls. The interiors of both sherds have the concentric rings of wheel-thrown manufacture.

One sherd of brown salt-glazed stoneware has a matt yellow-red (2.5YR) interior. Traces of fine throwing striations are present on the nearly smooth interior. The sherd is probably from a large vessel with a globular body.

These sherds probably belong to the British brown stoneware category dated by South (1972: Fig. 1) in the range 1690-1775 with a mid-range date of 1733. The estimated modal date (Grange 1973a) of 1755 is used here for formula purposes.

These specimens are listed in Table 7 and in Table 34 of Appendix A. (See Figs. 83, 84b.)

White Salt-Glazed Stoneware

Fine white salt-glazed stoneware was present in small quantity at the site. These sherds fall into three of South's numbered types: 16, 40 and 43 (South 1972: Fig. 1).

Type 40 includes those specimens which are plain white salt-glazed stoneware. There are four sherds; one from a thin-walled vessel with a slightly everted and rounded lip. Two specimens are of indeterminate vessel form and the fourth is a flat sherd from the bottom of a large plate or platter. South (1972: Fig. 1) indicates a date range of 1720-1805 and a median date of 1763. A modal date of 1765 (Grange 1973a) can also be used for the type.

Type 16 specimens are moulded white salt-glazed stoneware as opposed to plain specimens. The single example is a handle fragment. The handle was oval in cross-section and angular in outline, with moulded encircling cordons in low relief. The back (exterior) side of the handle is decorated with stippled or sponged blue glaze. South (1972: Fig. 1) indicates a range of 1740 to 1765 and a median date of 1753 for the types. A modal date estimate (Grange 1973a) can be used in date calculations.

Type 43, moulded white salt-glazed stoneware plates, is represented by three specimens of plate brims. Two are scalloped in form and have a moulded design at the rim edge, the "Bead and reel" (Noël Hume 1970: Fig. 35, 2). The third specimen bears a tiny trace of a similar moulded design. South indicates (1972: Fig. 1) a date range of 1740-75 and a median date of 1759 for the type.

The specimens are listed in Table 7 and in Table 35 of Appendix A. (See Figs. 84c, 85.)

Farrar (?) Stoneware

A number of stoneware sherds probably all from a single vessel are salt-glazed on the exterior and have a dull brown "Albany" slip on the interior.

The exterior surfaces are smooth while wheel-throwing striations are present on the interior. The exterior is a mottled light orange in the darker areas (2.5YR 8/6) while the interior slip is a moderate reddish brown (10R 3/4). The vessel was probably a jug. Basal sherds are flat-bottomed and beveled around the basal edge. The flat bottom was glazed on the exterior surface. The vessel wall sloped outward from the base and had a rounded shoulder, assuming all sherds are from the same vessel. The rim form is unknown.

One rounded shoulder sherd bears part of an impressed maker's stamp, unfortunately incomplete:

E.L. & G.W. -------
BURLINGTO-
3

This mark is obviously Burlington. The initials may refer to Ebenezer Lawrence and George W. Farrar, members of a Vermont family of stoneware manufacturers (Watkins 1950: 148). Unfortunately the lack of the last name on the mark makes this a tentative inference but if it is correct, the specimen probably dates sometime in the mid-19th century after 1838. Ebenezer Farrar was working in Burlington in 1852 and possibly earlier (Watkins 1950: 148) while working dates for George W. and Ebenezer Lawrence Farrar are 1840 and 1854 respectively (Watkins 1950: 255).

A tentative date of 1853 was used for ceramic formula calculations involving these sherds.

These specimens are listed in Table 7 and in Table 36 of Appendix A. (See Figs. 84d, 86.)

Miscellaneous Albany Slipped Stoneware

A number of sherds of stoneware with varying fabric and exterior colours have dark brown slip-covered interiors. Their exterior surfaces are smooth and salt-glazed while on the interiors the rings and striations of wheel-throwing may be seen. The interiors are covered by a uniform layer of brown slip of varying colours. The brown glaze appears to be Albany slip glaze (Osgood 1971: 59).

Two specimens are shoulder fragments although the small sharp line of a shoulder may be seen. The diameter cannot be measured but appears to be that of a small cylindrical bottle. One base sherd of a small cylindrical bottle about 64 mm in diameter (estimated) was also found. It has a salt-glazed grey exterior and a greyish brown interior (7.5YR 3/2). The exterior edge of the base is beveled. The remaining specimens are all body sherds, possibly from bottles. A median date of 1850 is used for formula purposes.

Several examples of stoneware with a shiny brown Albany slip were found. The fabric is light buff. Horizontal throwing rings and angled wiping lines are present on the interior surface. Both interiors and exteriors are glazed except the bottom exterior surface of a large cylindrical vessel with a flat bottom. Only smears or spots of the glaze appear on the bottom. The curvature of some body sherds suggests that the vessel forms may have included a jug. One shoulder sherd has a shallow encircling groove. The sherds could all be from a single vessel.

In application the glaze is slightly uneven, producing gradations within the nearly uniform colour. Colour ranges from brownish grey (10YR 3/1) to greyish brown (7.5YR 3/2). These specimens probably belong to the Albany slipped category and are listed in Table 7 and in Table 37 of Appendix A. (See Figs. 84e, f, 86b.)

Brown Stoneware (19th-Century)

The most common type of utilitarian stoneware recovered from these excavations are fragments of brown stoneware bottles (Noël Hume 1970: 79) and straight-sided, flared jars.

In addition there are a few of these jars or containers of identical fabric or form but with other glaze colours than brown. These are included in this category on the basis of their paste and form, but are tabulated separately.

The bottle and jar forms (containers) are described separately as well.

Bottles

Many of the specimens are bottle forms. Based on the frequency, most of these were probably blacking bottles, but ink bottle and ginger beer bottle rim forms are also present in the type (Noël Hume 1970: 79). Such specimens are South's type number 1 (South 1972: Fig. 1) with an 1820-1900 date range and a median date of 1860.

These specimens generally have a grey core, sometimes with somewhat bluer bands near the surfaces. There are occasional air pockets and large aplastic particles present but usually the paste is fine and uniform.

Glaze is present on the exterior; the interior is usually unglazed. However, some cases with interior glazing are present as well. The colour ranges are from brown to grey but most specimens are brownish. This may be mottled in speckled fashion or mottled in patches with large areas of the vessel uncoloured.

On the interior there are swirled and concentric ridges from throwing. The exterior surfaces are smooth but with rough spots formed by adhering aplastics, probably firing scars or touchmarks. Two ginger beer forms with collar-like string rims were present.

These specimens are mostly wide-mouthed forms, the rim being 50 mm to 70 mm in diameter, with 60 mm the most frequently occurring dimension. Bases and bodies are cylindrical and between 70 mm and 80 mm in diameter. The vessel shoulder was most commonly a sharp beveled form below the outflaring rim. On one specimen the impressed letters BLACKING BOTTLE are present on one side of the cylindrical body. The letters are 7 mm high.

These specimens are listed in Table 7 and in Table 38 of Appendix A. (See Figs. 87a-e, 88, 89.)

Containers (Jars)

The most numerous specimens of brown stoneware are fragments of containers. These are small, straight flared jars, smaller in diameter at the base than at the rim. The vessel wall has a V-shaped groove encircling the exterior just below the rim. The rim is flattened and rounded. The footring is formed by the vessel wall on the exterior and deeply indented bottom, the footring itself being wedge-shaped or a truncated triangular form in cross-section. Depth of footring bottom ranges from 6 mm to 11 mm. Both interior and exterior surfaces of these vessels are smooth, although fine concentric striations can be seen on the interior surfaces when they are not glazed. On the exterior there are also fine single or parallel encircling lines on the wall but these are intentional additions and not as deeply incised as the rim groove described earlier. On the interior bottom of the tumbler there are often pronounced concentric striations as well as a slightly raised central bump. On the exterior the bottom also exhibits well-marked concentric rings and sometimes a raised central bump of clay. These marks appear to be related to the machinery used in the engine-turned method of manufacture. The paste is grey of varying colour from buff to dark grey. The interior is sometimes unglazed and in those cases is the colour of the paste. Many examples, however, have an interior as well as an exterior brown glaze. The interior and exterior glaze ranges from greyish brown (7.5YR 3/2) to strong yellow brown (10YR 5/6), with many examples being moderate olive brown (2.5Y 4/4) to moderate yellowish brown (10YR 4/4). The glaze is generally mottled rather than uniform upon close examination. There are some variations in the thickness or shiny quality of the glaze.

The same vessel form is also seen in some distinctly different glaze colours which are described separately as a miscellaneous category.

These specimens are a form identified as a container for blacking (Davis 1967: 41-2, Plate 6) although they are mostly of darker colour than the specimen illustrated there.

The similarity of the paste, surface finish and function is interpreted as sufficient evidence to include these specimens in the same category as South's type 1 (South 1972: Fig. 1) for dating purposes. They are tabulated separately, however.

These specimens are listed in Table 7 and in Table 38 of Appendix A. (See Figs. 87f, 90.)

Miscellaneous Containers and Bottles

There are a few examples of the stoneware containers which are identical in form to the brown stoneware vessels but differ significantly in their glaze, the colours falling well outside the range of variation described for the brown vessels. Except for colour and glaze they are identical to those described above.

Unglazed

One variety consits of several unglazed sherds. They are otherwise similar in shape and core colour, lacking only the glaze. One of these has a somewhat roughened and mottled surface which may be burned glaze but the other examples apparently were never glazed. All are sherds from near the base of the vessels.

Grey Salt-Glazed

Two rims from stoneware containers have a light grey colour and are salt-glazed on the exterior, having a pebbly surface and a colour very similar to the bluish grey of the Westerwald salt-glazed materials. In other respects they are identical to the brown salt-glazed container vessels. Both interior and exterior surfaces are glazed in the same manner. Both sherds have a groove encircling the vessel beneath the lip on the exterior. The lip is flat and rounded.

Brown Glazed

One rim fragment of a container has a thin wall and a rounded lip below which is an encircling groove on the exterior. Both interior and exterior are glazed with a strong brown (5YR 4/5) glassy glaze.

Cream-Coloured

A number of container sherds are a distinctly light cream colour. Two are partially complete specimens on which there are finger prints in strong orange (5YR 6/11) on the exterior, apparently resulting from handling the vessel prior to glazing. The rim of one is the same cream colour while the other is brownish orange. On both specimens the interior is cream-coloured near the top but grades into brownish orange in the bottom. Lips are flattened and rounded. The wedge-shaped footring is rounded. A groove encircles the exterior of the vessel below the rim. On the interior bottom of the most complete specimen there is a central protruding bump and small ring, while on the exterior bottom there is a flattened central bump and concentric striations. These features are related to the mechanical turned method of manufacture employed. There is also a small imperfection on the exterior of this vessel in the form of an indented impression of criss-crossed lines similar to a small patch of impressions made by fine mesh wire screen. Two other sherds are placed in this category of cream-coloured stoneware although their exterior colour ranges from cream to an orange-yellow tint; their colour is not dark enough to match the normal brown glazed colour of the majority of the stoneware containers. The interior of one of these specimens is unglazed whereas the other is quite shiny. One rim sherd and a small body sherd with cream-coloured exteriors have dark brown glazed interiors. One small rim fragment has a yellowish cream glassy glaze on both interior and exterior.

Greyish White

Three sherds of salt-glazed stoneware have a similar greyish white exterior colour. All have a light grey paste core colour as well. All exhibit wheel throwing marks on the interior surface while the exterior surfaces are smooth. The exteriors are all salt-glazed with a smooth to slightly grainy surface feel. The interior of one is unglazed while the other two are salt-glazed on the interior. One of these is the colour of the paste while the other has a yellow red (5YR) tint on the interior. Vessel forms are probably bottles.

Greenish Grey

Another of the miscellaneous stoneware sherds is a slightly greenish grey. The core is a dark grey; both interior and exterior are glazed. There are throwing rings on the interior where the glaze is somewhat greener, thicker and more pebbly to the touch. On the exterior the glaze is faintly greenish grey, somewhat less shiny, and very smooth.

Grey, Thick Glazed

Two sherds of a thin grey stoneware with a thick glassy glaze are distinct from the others of the same body colour. The glaze is clear and in cross-section appears as a distinct thin glassy layer. Both interior and exterior surfaces are glazed. Striations on the interior indicate wheel thrown manufacture.

Olive Brown Glazed Interior

Two sherds of brown salt-glazed stoneware have a moderate olive brown (2.5Y 4/4) glaze on the interior. The exterior of one specimen is reddish brown and mottled, while the other is a mottled greyish colour.

One specimen is a body sherd from a cylindrical vessel, probably a bottle. The other appears to be a shoulder sherd from a bottle; it is from a section where the recurve of the neck begins to appear.

The miscellaneous stoneware specimens differ in colour from the 19th-century stoneware bottle and container examples previously described, but in their vessel forms appear to belong to the same general class of stoneware objects. They are, therefore, treated as belonging to the same class as South's type 1 (South 1972: Fig. 1) of 1820-1900; the mid-range date of 1860 is used here for formula dating purposes.

These specimens are listed in Table 7 and in Table 39 of Appendix A.

Miscellaneous Unidentified Stoneware

Grey Glazed Stoneware

One specimen of a large stoneware basal sherd with a greyish blue glaze on both interior and exterior was found. The body is grey vitrified to near porcelain character.

The glaze has a bluish colour and is a thin, smooth glassy surface with a few indentations and other imperfections. Both interior and exterior are glazed. On the exterior there is a light blue (5PB 6/8) underglaze decoration in the form of two encircling parallel lines.

The vessel form is indeterminate but perhaps was a large cylindrical form. The footring is triangular in cross-section and beveled to a thin edge. The beveled portion is unglazed and slightly coloured by iron oxide particles. (See Figs. 84h and 91a.)

Buff Stoneware

Two sherds of a buff-colored stoneware with a clear lead glaze were found. The body is a yellowish buff and on fractures appears very fine grained. The interior surface is covered with a very thin but smooth and uniform layer of clear glaze. The exterior is unglazed. Around the base of the exterior a series of parallel diagonal incised lines 8 mm to 11 mm in length are present. There are also two remnants of a relief sprigged decoration. The cleavage between the vessel wall and the attached decorated sprig can be seen in a fracture cross-section. The vessel form appears to be a large flat-bottomed vessel of indeterminate shape. The outer edge is slightly thickened to form the footring. (See Figs. 84g and 91b.)

Except for the interior glazing, the specimen may be related to Caneware, a buff-coloured unglazed stoneware (Hughes 1965: 50-1).

Coarse Salt-Glazed Stoneware

One fragment of a thick coarse salt-glazed stoneware tile was present. The body is a buff-coloured paste, fired to traces of pinkish colour at the surfaces. Both interior and exterior are covered with a mottled yellow-red salt glaze. The darker spots are strong brown (2.5YR 4/7). The fragment appears to be a section of cylindrical tile. (Fig. 91c.)

Unidentified Burned Stoneware

Two sherds of stoneware are burned and therefore unidentifiable. One is a body sherd of small size and the other is a fragment of a strap handle.

All of the unidentified stoneware fragments, burned and unburned, are listed in Table 7 and in Table 40 of Appendix A.

Porcelains

Utilitarian Semi-Porcelain

A fairly common variety of ceramics found in these excavations has a vitrified fabric similar to porcelain, but the vessels are thick and the style of plates and cups are indicative of an everyday utilitarian table ware category as well. Some specimens are white but the most distinctive feature of the predominant examples is a bluish white (7.5PB 9/1) colour.

There are no decorations other than moulded designs on the vessel exteriors. Many sherds are plain. The moulded designs include a ribbon-like rim border, vertical fluting, straight panels and foliate patterns.

All of the specimens are thick-walled vessels but most are of indeterminate form. Fragments of a teapot are recognizable. There are plate or bowl brim fragments, saucers, cups and both knobs and strap handles.

Whiter specimens also include handle fragments and a saucer with relief moulded decoration as well as a knob and a possible vase or pitcher.

Aside from the fabric, which is near porcelain in character, these specimens are difficult to distinguish from many of the simpler ironstone examples. Such wares parallel the ironstone ceramics (Noël Hume 1970: 131); South's dates (1972: Fig. 1) for ironstone will be used in formula calculations.

These specimens are listed in Table 7 and in Table 41 of Appendix A. (See Figs. 91, 93a-d.)

European Hard Paste Porcelain (?)

A small quantity of hard paste porcelain was recovered. These sherds exhibit a smooth shiny conchoidal fracture. They have a thin uncrazed glaze which is sometimes difficult to distinguish from the fabric.

White

A sub-group of these specimens includes those which are white and plain. The sherds are too small for clear determination of form although one specimen is a nearly complete saucer from a child's tea set. Other sherds appear to be from small bowls or cups. One has a tiny perforation and could be from a teapot. Lips on the rim sherds are slightly thinned as well as rounded. (Fig. 94a.)

Moulded

One example with a trace of moulded design was present. It is plain white with a barely visible moulded design around the interior of the rim; the decoration appears to be a foliate motif. It is a small fragment, probably from a saucer.

Overglaze

Two examples with overglaze enamel decoration were recognized. They are too small to provide a good description of the design. One has a trace of a light purple (7.5P 6/8) decoration of unknown pattern. The other is multi-coloured and has an apparent ring of foliate motif decoration around the bottom of a saucer (?) in a strong yellow green (5GY 6/8). Within the green border are flecks of strong purple (7.5P 4/10) forming part of an indeterminate design.

Underglaze/Overglaze

Two hard paste porcelain sherds with both underglaze and overglaze decoration were found. They have a blue underglaze design combined with red and gilt overglaze in a probable foliate motif. The blue colour ranges from deep purplish blue (7.5PB 3/10) in large areas to brilliant purplish blue (7.5PB 5/11) in narrow lines. The red highlights are strong orange (2.5YR 6/12) applied overglaze. Gilt decoration is also applied overglaze. The ground colour is bluish white.

The form appears to be that of a plate or bowl, one sherd being part of a base and the other part of a brim. The lip is thinned and rounded. The foot lacks a projecting footring but has an indented central area in the base.

These hard paste specimens are probably all 19th-century European in origin but have not been more specifically identified. A mid-range date of 1850 has been used for formula dating purposes.

The specimens are listed in Table 7 and in Table 42 of Appendix A. (See Figs. 93e, f; 94b, c.)

Bone China (?)

Several porcelain specimens with a granular appearing fabric may be bone china (Sussman: pers. com.).

Blue and White

One specimen has an oriental foliate (?) design; two have blue transfer-print foliate decorations and two have blue transfer-print scenic decorations. Form is indeterminate in some cases. One specimen is the base of a plate or large bowl with an indented base; another is a basal fragment of a small tea bowl while another example is the brim of a straight-sided octagonal (?) bowl or plate.

The ground colour of most specimens is bluish white (7.5PB 9/1) while the straight-sided specimen is a pale blue (2.5b). (Figs. 93, 95.)

Overglaze Decoration

A few examples have overglaze decoration which has eroded away or nearly so leaving only a roughened surface or traces of gilt decoration to signify their former presence. The ground colour of these sherds ranges from white to bluish white (7.5PB 9/1). One sherd is crazed. The form is indeterminate but bowls or saucers are most likely.

A mid-19th-century date estimate is utilized for these specimens.

These sherds are listed in Table 7 and in Table 44 of Appendix A.

Chinese Export Porcelain, Underglaze Blue and White

A few examples of thin, well made, hard paste porcelain decorated with blue and white hand-painted designs have been identified as Chinese export porcelain.

Most of the sherds are too small for a complete description of decorative patterns. They include geometric rim bands and patterns representing scenic, foliate and insect motifs. The ground colour is a faintly bluish-white (7.5PB 9/1) and the hand-painted decorations range from dark blue (5PB 3/10) to light blue (5PB 7/7).

Most sherds are probably from saucers or small bowls. South (1972: Fig. 1) dates these from 1660 to 1800, with a median date of 1730, but a modal date estimate of 1750 (Grange 1973a) is used here.

These specimens are listed in Table 7 and in Table 44 of Appendix A. (*See* Figs. 93, 96.)

Chinese Export Porcelain, Polychrome (?)

These specimens are a hard paste porcelain. One body sherd has a trace of a red foliate motif on the interior while the exterior is undecorated. Two body sherds are undecorated. These specimens, however, closely resemble Chinese polychrome porcelain sherds found in other excavations (not reported here) adjacent to the fortification ditch system.

These sherds probably belong to the same vessel and certainly to the same ware despite the plain character.

South (1972: Fig. 1) estimates type 26 as 1660-1800 with a median date of 1730, but a modal date estimate of 1750 (Grange 1973a) is used here.

These specimens are listed in Table 7 and in Table 45 of Appendix A. (*See* Figs. 93, 97.)

Chinese Export Porcelain, Brown Glazed

A third example is a specimen with an overall brown glaze on the exterior. Its interior is undecorated. This specimen appears to be similar to ones described by Miller and Stone (1970: 90). The sherd is probably a fragment of a teapot spout.

Miller and Stone (1970: 90) indicate this is an 18th-century ware and 1750 is therefore used as a median date in formula calculations.

These specimens are listed in Table 7 and in Table 45 of Appendix I. (*See* Fig. 98.)

Summary of Marked Specimens

There are few marked specimens in the collection and many of these examples are too fragmentary for identification. Each has been discussed in the appropriate ceramic type section, but they will be summarized here for the convenience of those who may seek to isolate these data.

Impressed marks are present on some 19th-century brown stoneware bottles (Fig. 89). In addition to the illustrated specimen there are one or two examples with single letters or parts of letters (Table 38, App. A), one of which is clearly a W.

Impressed marks are also present on specimens identified as Farrar stoneware (Fig. 86). The mark includes the initials E.L. & G.W., and most of the word BURLINGTON.

An impressed mark consisting of a plume and the word TURNER is found on what may be an early ironstone sherd (Fig. 72).

Ironstone vessels with the transfer-printed marks of the STONE CHINAWARE CO., ST. JOHNS, P.Q. (Fig. 77) and DUNN, BENNETT & CO., BURSLEM, ENGLAND (Fig. 74) are complete or nearly completely reconstructable.

An impress anchor (probably Davenport) is found on the bottom of a green shell-edge plate (Fig. 58k) while the impressed word DAVENPORT above an anchor and below a plus mark (+) is present on a fragment of red transfer-printed refined white earthenware (Fig. 68a).

Most of the marked specimens are transfer-printed, but few are sufficiently complete for easy identification. Brown transfer-printed examples bearing the letter G and another with the letters SYM...T... (Fig. 68) are present. The latter is probably part of a label rather than a maker's mark.

Two green transfer-printed specimens are present. One bears the letters H and TUNST while the other bears the letters R and W and BIRD (Fig. 68).

Light blue transfer-printed examples include one with the possible letters FREN... and another with a scroll and the letters ....AVE (Fig. 68).

A pearlware sherd decorated with the transfer-printed Willow pattern bears parts of a mark on the base. It includes the word WILLOW and the letters BA..... (Fig. 68).

Summary of Ceramic Descriptions

A wide variety of potsherds representing ceramic types including earthenwares, delftware, creamwares, pearlware, refined white earthenware, ironstone, stoneware and porcelains were recovered from these excavations in the old fortification ditches at Ile-aux-Noix. The distribution of these specimens by major stratigraphic unit is summarized in Table 7. General descriptions of the specimens have been presented; detailed data and dimensions are recorded in tabular form in Appendix A.

The data in Table 7 will later be employed in ceramic formula dating.

It is possible to estimate the dates of some stratigraphic units or features at the site on the basis of their identification as historically recorded structures. In some cases, such identifications are almost certainly correct. However, it is desirable to confirm such historical dating by means of the archaeological data and for this purpose the ceramic contents of the excavation units provide some fundamental information.

One simple and standard approach to the dating of the stratigraphic units is to determine the ceramic terminus post quem for the layer by recording the earliest date of the latest ceramic type identified in the lot. Table 8 summarizes these dates for the major excavation units. These data will also be used in a later part of the ceramic analysis.

Another aspect of the terminus post quem approach provides a quick estimate of the major occupational period represented by the ceramics in an excavation unit. There is a correspondence between the development of ceramic technology and periods of occupation at Ile-aux-Noix. The initial occupation terminated in 1761 at about the time of the introduction of creamware in 1760 (1762 as listed in South 1972: Fig. 1). It is unlikely that creamware was in use at the site during the Period I occupation. Hence the absence of this type may indicate that a unit belongs to the earliest period and the presence of creamware means that the second or a later period of occupation must be represented. Pearlwares also serve as horizon markers for the second occupation period of 1775-1809. The third major occupation of the site began in 1812 and the presence of ceramic types originating after this date such as ironstone, refined white earthenware and 19th-century brown stoneware, serve as indicators of this period.

The following tabulation summarizes these relationships:

Occupational Phase		Major Ceramic Horizon Markers
Period IV	1870-1966	Dated ironstone types
Period III	1812-1870	Ironstone/refined white earthenware/19th-century brown stoneware bottles
Period II	1775-1809	Creamware/pearlware
Period I	1759-1761	Pre-creamware types

The period estimates based on these horizon markers are also listed in Table 8.

It is evident from these data that most of the ditch fills date to Period III or later. That is, their ceramic contents indicate deposition after 1812. This is, of course, in close agreement with the stratigraphic and historical evidence that these ditches were filled in the period 1819-28 when Fort Lennox was under construction. Two stratigraphic units can be confirmed as probably dating to the initial French period of occupation on the basis of their ceramic contents and one level may contain mixed refuse from both Period I and Period II. Some levels high on the glacis of Fort Lennox contain ceramics indicative of the Period IV occupational period.

In a later section an attempt will be made to apply the ceramic formula dating method in an effort to develop a seriation of stratigraphic units and in an attempt to estimate more precise dates for each stratigraphic level.

Pipes

A total of 1,014 clay pipe fragments was recovered during the excavation of the old fortification ditches. Many of the pipes were manufactured in England or Scotland and a few were manufactured in Montreal and Quebec.

Pipestem Fragments

Most of the stems have been broken into small sections and only one relatively long stem segment was still attached to a bowl. Most of the stem fragments are plain. The bore diameters of the plain stem fragments are 4/64, 5/64 and 6/64 inches. The 5/64-inch bore diameter is most common, 4/64-inch next and 6/64-inch the least frequent. This has been previously noted in other excavations at Ile-aux-Noix (Walker 1968: 100; Lemieux 1965). These specimens are tabulated in Appendix B, Table 1 and summarized in Table 9. As shown in that table, the bore diameters produce formula dates consistently earlier than the occupation of the forts on the island. The Harrington date bracket method does no better at chronological estimates based on bore diameters. This is because the system of dating does not apply to specimens of the late 18th and early 19th centuries (Walker 1968: 94-5).

The plain stem fragments contribute little to the dating of the fortification ditch complexes.

Mouthpieces

Several specimens (42) were identified as mouthpiece fragments of pipe stems. These include plain original mouthpieces, glazed original mouthpieces, glazed stem fragments, and secondary mouthpieces created by tapering and carving or toothmarking. In addition to the specimens listed in Table 10, some secondary mouthpiece specimens are listed under the marked stem category.

The unglazed original mouthpiece fragments are usually more tapered stem sections with a stem diameter of 4 mm to 6 mm. There is usually a trace of a protruding ridge around the bore hole caused by dragging the clay slightly as the wire was removed from the stem during manufacture (Fig. 99d). The original ends are also smooth unlike the rough broken surface of a stem fracture. Two of the original mouthpieces have flanged ends similar to the stem end flange on a modern pipe. This is a late trait (Walker 1971a: 31; Fig. 99a, b).

The application of a thin coat of brown or greenish glaze at the mouthpiece is also seen in this sample of stem fragments. Where the original stem end is present, it has been glazed along with the stem itself. The wire removal ridge can sometimes be seen under the glaze on the end of the pipe. Some stem fragments with traces of glaze but lacking the original mouthpiece end surface are also present (Fig. 99c). Walker (1971a: 31) illustrates some similar examples noting that glazed mouthpieces are rare before the 19th century.

The secondary mouthpieces are most commonly formed by beveling the edges of the fractured stem end; smoothing of the stem end is an associated trait. Some examples of secondary mouthpieces exhibit greater tapering as well as smoothing. One exhibits a trace of an encircling groove used to snap the stem off at right angles as well as whitling to bevel the end (Fig. 99*e*, *f*, 103).

Table 10 lists the specimens in stratigraphic sequence. It is notable that only two of the glazed mouthpieces were found in the ditch fill levels of the 1819-28 construction period while the other 14 specimens are from levels above the ditch line and thus probably post-date 1828. In part, this may simply reflect the general distribution of pipe stem fragments which are much more common in the refuse-laden layers of fill above the former ditches. Other details are recorded in Table 2, Appendix B.

Marked Stems

Fifty-nine pipe stem fragments bear a maker's name, or a portion of such a mark, impressed longitudinally on the specimen. These are among the most readily identifiable specimens recovered at the site. They are listed in Table 11 and in Table 3, Appendix B. (*See* Figs. 100-4.)

Decorated

Two decorated stems are also listed in the above table. One of these bears two longitudinal lines which may be scratches rather than decoration. The other (Fig. 100) has a thickened area which was adjacent to the bowl, now missing. The stem is tapered and encircled by two cordons, between which a series of longitudinal ridges and grooves forms a decorated area. These specimens have not been identified.

Coghill

The most common maker's mark found on the sample of pipe stems from these excavations is that of A. Coghill of Glasgow (Fig. 101). The name A. COGHILL is impressed on one side of the stem and the place, GLASGOW, on the opposite side. The letters are 2.5 mm to 3 mm in height, but are mostly 3 mm. Where the words are complete, they are 23 mm in length. Only one specimen retains part of the bowl; this includes a tapered, conical-cylindrical spur. The remainder of the bowl is missing and the maker's name cannot be associated with a bowl form in this collection. A second specimen includes a spur scar on the stem fragment. In both cases the lettering begins 36 mm from the bowl end of the stem.

Most of the specimens include only portions of the name and place mark, but eight are complete marks. One of these is on a segment of stem which is curved (Fig. 101).

Six of the A. COGHILL stems have a bore diameter of 4/64 in.; the remaining 30 are 5/64 in. in bore diameter. The mean bore diameter for the type is 4.8/64 in.

The A. Coghill Company is recorded between the years 1826 and 1904 (Walker 1971a: 25). The 1826 date for this type would serve as another time marker for the deposits in which these specimens were recovered. As indicated in Table 11, the bulk of these specimens is from stratigraphic levels above the ditch line and therefore date after the Fort Lennox construction period of 1819 to 1828. One specimen was found in the ditch fill, and its 1826 terminus post quem date would confirm the dating of that level to the Lennox construction period.

It is interesting to note that these specimens were all recovered from a single operation which was excavated at the northwest shoulder of the old British fort. It is likely that these fill deposits came from a single locus on the site where there was a concentration of Coghill pipes.

Henderson

The second most common maker's mark, represented on 18 specimens, was that of Henderson, a Montreal firm. These letters were impressed, HENDERSON on one side of the stem and MONTREAL on the opposite side, in letters ranging from 1.7 mm to 3.5 mm high; most were about 2 mm high. The words, where complete, were 23 mm to 25 mm in length. Eight examples were complete, or nearly so; the rest had identifiable segments of the words. On one measurable specimen the word MONTREAL begins 29 mm from the bowl end of the stem. The word HENDERSON begins 18 mm from the bowl end on the other side. On a second example the word HENDERSON is 20 mm from the bowl end. The specimen has a tapered, cylindrical spur which bears a backward "6" on each side (Fig. 100). The other specimen with a spur fragment is also a tapered conical spur type (Fig. 102).

The earliest reference to this Canadian manufacturer is 1847. The several makers of this name all belong to the 1847 to 1876 period (Walker 1971a: 25). The 1847 date on this type corresponds well to its stratigraphic position in layers above the ditch fill line, that is, post-1828 in the excavations at the northwest shoulder of the first British fort (5G48). Near the northeast salient (5G44) two of these specimens are found in the upper ditch fill layer (but above the log fill level). The layer should belong to the 1819-28 period of ditch filling. Either these specimens are intrusive or this layer of fill may be later than previously estimated. Similar specimens come from the layer stratigraphically above so that intrusion or error in excavation could account for the seeming discrepancy.

McDougall

Two stems marked with MCDOUGALL on one side and GLASGOW, SCOTLAND on the other are present. Both are complete (Fig. 103).

One of these specimens is notable in that a secondary mouthpiece including tooth marks is present on one end of the fragment. The letters in the impressed mark are 2 mm to 2.6 mm high.

The McDougall firm was founded in 1846 and remained in the pipe manufacturing business until 1967 (Walker 1971a: 25). The earlier examples were marked Glasgow, but the word Scotland replaced Glasgow in 1891 in accordance with a United States import requirement (Walker 1971c: 3). Since both Glasgow and Scotland appear on these stems, they may date to about the time of that transition.

Since these specimens are found in a stratigraphic position above the ditch fill levels, such a late dating would fit well with the context of the specimens.

W. & D. Bell

Three stem fragments made in Quebec were also recovered. These are marked with segments of W. & D. BELL on one side and QUEBEC on the other (Fig. 104). The firm was making pipes between 1862 and 1877 (Walker 1971a: 30).

The specimens were recovered from stratigraphic levels originally estimated to be later than the 1819-28 construction period.

Summary

Additional makers are represented by marked bowl fragments, but those specimens are discussed separately. The marked stems provide dated artifacts which can be used to cross-check the ceramic dating and historical identification of stratigraphic units at the site. With only one exception, these dated artifacts correspond well with historical date estimates of their context.

Pipe Bowl Fragments, Plain

A total of 173 otherwise unidentifiable fragments of pipe bowls were recovered. These fragments are all plain and cannot be classified according to form or other characteristics. The thickness of the specimens ranges from 1 mm to 3.9 mm.

These specimens are listed in Table 12 and in Table 4 in Appendix B.

Pipe Bowl Fragments, Spurs

In addition to plain bowl fragments, some pipe specimens were from the base of the bowl and retained all or a portion of the spur. A few specimens include only a scar where the spur had broken off. Twelve of these have a 5/64-in. bore diameter and one has a 6/64-in. bore.

Most commonly the spurs were conical and tapered to a rounded point. These were flattened or oval in cross-section. Other spurs were more rounded in section and tapered but had a flat bottom and were truncated cones. The mould seams were most often visible on the flattened or oval sectioned examples. Twenty-five specimens have a 5/64-in. bore diameter while eight have a 4/64-in. bore diameter.

One spur fragment was marked with a moulded "2" on each side (Fig. 105b). The numeral "2" is probably a manufacturer's style number. Two other examples bore traces of moulded letters but were illegible and therefore included here rather than with a marked specimen category. These have 5/64-in. and 4/64-in. bore diameters.

These specimens are listed in Table 12 and in Table 5 of Appendix B.

Pipe Bowls, Plain, Flattened Conical Tapered Spur

Some pipe bowls were complete, or nearly so, while others were large enough for a tentative identification.

One group of specimens is composed of plain, unmarked bowl fragments with oval-sectioned tapered conical spurs similar to the spur fragments previously described. Two such specimens lack the spur but have oval spur scars and have been included in the category on this basis.

The more complete examples (Fig. 106*b*, *c*, *d*) have the top of the bowl parallel to the pipe stem. The front of the bowl is rounded similar to Oswald's types 9a or 11b (Oswald 1955). The back of the bowl also has a rounded profile more like the 9a profile than the straighter back of Oswald's type 11b. Type 9a, however, has a bowl angled more obtrusely in relationship to the stem while the specimens in this group have a bowl/stem angle like those of the 11b examples. These specimens are best classified as examples of Oswald's type 11b which dates to the 1790-1840 period.

Pipe Bowls, Plain Truncated Conical-cylindrical Spur

A smaller number of plain pipe bowls has a truncated conical spur or cylindrical spur form (Fig. 106*a*). The most complete specimen of this type has the top of the stem angled rather than parallel to the stem line. The bowl front is rounded, the back also curves. These specimens are probably best classified as examples of Oswald's types 12a or 12b of the 1820-70 period (Oswald 1955).

These specimens are listed in Table 12 and in Table 6 in Appendix B.

Pipe Bowls, Spurless, Keeled

A few examples of pipe bowls lack spurs but have a moulded keel on the front and bottom of the bowl. The keel is more pronounced at the bottom of the bowl (Fig. 107a). These specimens have relatively short bowls similar to the briar pipe form and may be a variant of Oswald's type 12c (Oswald 1955). If so, these specimens would date to the 1820-70 period on the basis of their form. The single measurable example has a bore-diameter of 5/64 in. The bowl top is slightly angled relative to the stem line.

These specimens are listed in Table 13 and in Table 6 of Appendix B.

Pipe Bowls, Moulded Decorated

A small number of pipe bowl fragments have traces of moulded decoration. Most examples are portions of a floral design; one includes part of a masonic design element as well as the floral decoration (Fig. 108a). One large example (Fig. 107b) has a barred back and floral motifs on the side panels. Another has a portion of a small moulded design, possibly a lamp(?) or other curvilineal motif on the back; the remainder of this specimen is plain (Fig. 108b). One measurable fragment is 5/64 in., the other is 6/64 in. in bore diameter. Another specimen has a moulded crown on the left half of the bowl.

These specimens are listed in Table 13 and in Table 6 Appendix B.

The bowl form of these specimens is indeterminate, but such moulded decoration occurs in the 1770-1800 period (Atkinson 1964: 126) and is typically 19th-century (Oswald 1960: 52).

Pipe Bowls, Moulded, Fluted

Another form of moulded bowl decoration is a distinctive curved fluting on the bowl (Fig. 109b, c) similar to the 1720-1820 examples illustrated by Noël Hume (1970: Fig. 97). The larger fragments appear to have the bowl top parallel to the stem line; one example has a cylindrical spur. One specimen (Fig. 109b) has a floral element in the design along the mould line on the front and on the back of the bowl. This specimen is marked with the moulded letters "W G" on the sides of the cylindrical spur. Oswald lists several makers with these initials who may have been responsible for these specimens at Ile-aux-Noix. William Grimes, Rugeley (1835), and William Gallant, Wisbech (1850-62) are possibilities (Oswald 1960: 73).

Another marked example has an "I" on one side of the spur; the second initial is chipped away and hence the maker is indeterminate.

Two measurable specimens have 4/64-in. and three have 5/64-in. bore diameters.

Both oval-sectioned and conical-cylindrical spurs are present.

These specimens are listed in Table 13 and in Table 6 of Appendix B.

Pipe Bowl, Impressed Decoration

Two pipe bowl fragments have an impressed decoration on the side of the bowl (Fig. 108c). The decoration consists of a central star-like design surrounded by an oval of raised dots.

These fragments are listed in Table 13 and in Table 6 of Appendix B.

Pipe Bowls, Moulded Effigy Heads

Several fragments of pipes with moulded effigy head bowls were found. These include a bearded man (fragmentary) and the top of a headdress. Such specimens belong to the 19th century (Fig. 110).

Pipe Bowls, Marked; Henderson

Two examples of pipe bowls with the maker's name HENDERSON impressed on the back of the bowl are present. Both are the same maker (Fig. 111) in which the word HENDERSON is arranged in an oval with a blank centre and stamped on the back of the bowl facing the smoker. The letters in the name are 2.8 mm high and the mark is 14 mm across. The one measurable specimen has a bore diameter of 5/64 in. The pipe has the bowl top angled in relation to the stem line. The bowl is rounded and heeless and has a line of rouletting around the exterior just below the rim. These specimens probably belong to Oswald's type 12c (Oswald 1955) of 1820-70.

These specimens are listed in Table 13 and in Table 6 of Appendix B.

Pipe Bowl, marked; GG

One complete bowl has a worn spur scar. The top of the bowl angles in relation to the stem line; the back is relatively straight while the front is curved. The bowl is similar to Oswald's type 12a (Oswald 1955) of the 1820-70 period. On the back is a maker's mark in raised or moulded form. The initials GG are surrounded by a crenellated or multi-pointed outline (Fig. 112). The bore diameter is 5/64 in.; the initials are 6 mm high and the surrounding line is 17 mm in diameter. The specimen is listed in Table 13 and in Table 6 of Appendix B.

Oswald lists four makers of these initials in an appropriate period if the bowl form is correctly identified (Oswald 1960: 71).

Pipe Bowls, Marked; Impressed TD, Letters alone

Several specimens of pipe bowls with the plain letters TD impressed on the back of the bowl are present (Fig. 113). The letters tend to be rather far apart, one on each half of the bowl back 10 mm to 12 mm apart. The letters are 3.2 mm to 4.1 mm high; most are 4 mm high. The measurable specimen has a bore diameter of 5/64 in. One specimen has the scar of an oval-sectioned, probably conical spur. Another example has a long, cylindrical spur with a rounded end. There are moulded letters on the sides of the spur; both may be "I" but an upside-down "T" and "D" are also possible interpretations.

The bowl tops are parallel with the stem line only slightly angled in relation to it. Both the backs and fronts of the bowls are rounded and the specimens are probably of Oswald's type 12a of 1820-70 (Oswald 1955).

The specimens are listed in Table 13 and in Table 6 of Appendix B.

Pipe Bowls, Marked; Impressed TD in Wreath

One of the most common types of bowl marking was a TD encircled by a wreath or rope-like design on the back of the bowl. These specimens include ones with the top of the bowl parallel to the line of the stem and others with the bowl top angled relative to the stem. Both tapered conical and cylindrical spurs are present. Maker's marks appear on the spurs in some cases. The bowl fronts and backs are rounded. These bowls are of Oswald's type 11 (1780-1850) and type 12 (1820-70) forms. These specimens are tabulated in Table 13 and in Table 6 of Appendix B. The various combinations of traits are described below.

Two examples bear only faint traces of the impressed TD in the oval ring or wreath on the back. Both have a 5/64-in. bore diameter. The one measurable example has the bowl top angled relative to the stem line.

Two other examples are exceptional in that the mark is more clearly done and the striations in the wreath-like ring are clear rather than smeared as they are in most cases. One fragment has only the T portion of the mark; the other has both the T and D on the opposite sides of the central mould line. That specimen, the measurable one, has a 5/64-in. bore diameter.

Two specimens bearing the TD in a ring impressed on the back also bear moulded letters on the sides of the cylindrical spur. The front of the bowl is rounded; the back slightly curved. The bowl top is nearly parallel to the stem line and the form can probably be classed as Oswald's type 12 (1820-70) or type 11 (1780-1850) (Oswald 1955). The letters moulded on the spur, WG (Fig. 114), are 3.7 mm to 4.5 mm high while the impressed letters on the back are 3.4 mm to 5 mm high in a 13-mm-diameter circle.

The TD pipe with the WG initials are relatively common and Walker (1966: 99-100) has discussed at length the possible partnership which may have led to the TD and WG marks being combined on pipes in the 1770s. These specimens at Ile-aux-Noix are in ditch fill contexts of the 1819-28 period but these strata contain specimens from earlier occupation periods of the first British fort.

The most common variety of the bowl marked with an impressed TD on the back bears rather sloppily executed marks in which the lines in the wreath or ring surrounding the letters are smeared. The wreath is composed of vertical striations within the oval or circular ring. The impressed letters TD range from 4 mm to 6 mm in height but are generally close to the 4.7 mm average height. All specimens have a bore diameter of 5/64 in. Where they are present on the specimen, the spurs are nearly all truncated conical-cylindrical in form. Both bowl fronts and backs are rounded. The bowl tops are both angled in relation to the stem line and parallel to the stem line (Fig. 115). Angled bowl tops are the most common, being three of the four measurable examples. One specimen is particularly notable in that it bears the carved initials of its owner on one side (Fig. 115), the letters HP being incised (10 mm to 15 mm high). There are 23 examples in this category.

A final specimen with an impressed TD mark on the back is different in that its mark consists of a different pattern surrounding the TD initials on the back. There is a trace of a curvilinear motif within the circle beneath the letters and the encircling marks are linear and sharper than the impressed wreaths described earlier (Fig. 116). This specimen is also notable in that the initials TD also appear on the sides of the cylindrical spur. The bowl top is parallel to the stem line and the back is straight. The front of the bowl is missing but the specimen probably was of Oswald's type 11b (Oswald 1955) of the 1780-1850 style.

The bore diameter is 4/64 in.; the letters are 4 mm high in a 16-mm circle.

Three specimens of marked spurs lacking the bowl backs probably belong to this same type category because of the similarity of the moulded TD initials on the cylindrical spurs. All three have 5/64-in. bore diameters.

Pipe Bowls, marked; TD moulded

Several examples of marked pipe bowls have the letters TD on the back. In this case the letters are raised and surrounded by an oval enclosure consisting of a double row of raised dots. The mark was, therefore, moulded rather than impressed. The letters are 3.5 mm to 6.7 mm high, but 5 mm is most common. The double dot ring enclosures range from 15 mm to 18 mm in diameter, 16 mm to 17 mm being most common. Two specimens have 4/64 in. bores; two have 5/64 in. bores, and one has a bore diameter of 6/64 in. Bowl tops are parallel to the stem line or nearly so (Fig. 117) and these specimens are of Oswald's type 11 although one is close to the earlier 9a form; the backs and fronts are curved. One specimen is a nearly complete pipe with 70 mm of the stem remaining. These specimens tend to have the oval-sectioned tapered conical spur form.

These specimens are listed in Table 13 and in Table 6 of Appendix B.

Summary

The bowl fragments and nearly complete bowls all appear to belong to the later bowl form types described by Oswald. These are of the periods 1780-1850 and 1820-70, all within the occupational span of Fort Lennox and its 1819-28 construction period and subsequent occupation. Table 14 summarizes these data. Some specimens could be derived from the first British fort period which began in 1776 because fill deposits were taken from the earlier occupation area for the ditch filling process. The date estimates based on bowl forms are thus consistent with the historical-stratigraphic model for these excavation units.

As with pipe stem fragments there is a heavy concentration of the pipe bowl materials from the excavations in the area of the northwest shoulder of the old British fortification ditch. These specimens are, however, from fill deposits, mostly from above the ditch line, and cannot reflect an activity carried out in this area but rather the deposition here of trash from some location where more smoking debris was concentrated.

The bowl forms, including the few examples marked and identifiable as from the Henderson firm of Montreal, are generally consistent with the form types described by Oswald. The TD-marked pipe was the most common; more than a single maker was involved. Unfortunately it is not possible to associate a bowl form with the stem fragments marked A. Coghill of Glasgow, or those marked McDougall, also of Glasgow.

Assuming that the marked stem fragments reflect relative proportions of pipe sources, 61 per cent of the pipes were made by A. Coghill, Glasgow, 30.5 per cent by Henderson of Montreal, 6.8 per cent by McDougall of Glasgow and 1.7 per cent by a Quebec firm, probably Bell. There is no way of estimating the proportion of pipes lacking a maker's imprint in their original condition, though the unmarked fragment is, of course, most common.

Table 15 summarizes the number of specimens of each maker's mark. The TD pipe is the most common marked variety but these may have been made by more than one maker.

As has been discussed, dating by means of the bore diameters does not work for assemblages of pipes of such late date. There does appear to be some difference between the mean bore diameters of pipe stems made by different makers:

W. & D. Bell, Quebec	5.7/64 in.
Henderson, Montreal	5.0/64 in.
TD marks	4.9/64 in.

A. Coghill, Glasgow	4.8/64 in.
McDougall, Glasgow	4.5/64 in.

The sample from these excavations is too small for a reliable comparison in statistical terms, but the variations noted above could be examined with a large sample of pipes and some relationship between makers and bore diameters might be discovered.

Glass

Eight hundred and forty-five fragments of glass bottles were recovered from the old fortification ditches at Ile-aux-Noix. The fill deposits contain a mixture of trash from different structures and this generally precluded the recovery of complete or restorable specimens from limited exposures. Since no whole or restorable specimens were found the analysis of the bottles must deal with fragmentary specimens rather than complete bottle forms.

Bodysherds were most common and relatively useless for chronological analysis. Some moulded specimens including lettering or other distinctive features provide chronological markers for some stratigraphic contexts and are therefore described more fully than the plain body sherds. The latter specimens have been included in the tabulation by colour and stratigraphic position (Table 17).

The following description concentrates on the bottle necks and bottle bases. Some inferences can be made about the probable association of some neck and finish shapes and base forms but the lack of complete or restorable specimens renders these speculations tentative.

The most common specimens are olive or green cylindrical wine bottles. Terms used in describing these specimens are drawn in part from an earlier report on bottles from Fort Lennox (Jones 1967, with notes added in 1973). Comparative references included McKearin and McKearin (1941), Noël Hume (1961; 1969) and Brown (1971).

Olive-Coloured Wine Bottle Necks and Bases

Both the neck/finish segments and the bottle bases can be divided into two major categories for descriptive purposes. These categories probably have temporal significance as reflections in the development of bottle making technology. These categories are *irregular* and *regular*, the latter being the least common in this sample (Figs. 118, 119). All appear to be from cylindrical round and sectioned bottles where shoulders or side walls are preserved.

The *irregular* specimens, both bases and necks, exhibit pronounced variation in shape and diameter, being bulged, sagged, lopsided and uneven in their dimensions. Bases and resting surface are not circular and the side walls of the bases sag just above the heel (Figs. 118*a*, 119*a*). The irregular necks have oval or misshapen rather than circular mouths and both lips and string rims vary in width and thickness as well as being of slightly irregular form around the rim of a single specimen.

In contrast, the *regular* specimens have much more uniform shapes and dimensions, although some minor irregularities are sometimes present. The bases have side walls which are straight, rising vertically from the heel, and the diameter is uniformly circular around the resting surface and heel of the base (Figs. 118*a*, 119*b*). There are irregularities in the push-up, however. The finishes on the *regular* necks have lips and string rims of uniform size and shape, coupled with a uniform diameter or symmetrical mouth. The exterior surfaces of the string rims and lips also exhibit horizontal striations which are absent on the irregular finishes. These imply that the final symmetrical form of the string rim and lip was accomplished with a mould employing a twisting action. In contrast, spiral stress grooves and lines on the neck below the finish resemble those seen on irregular necks as well.

The regular and irregular necks and bases can be further sub-divided into typological categories on the basis of the form of lips, string rims and basal push-ups. Neck profile is also significant and a few straight necks are present in this sample although most commonly they have a convex profile shape. Colour variations are also present but may be less significant than the variations in form, at least for chronological purposes.

Bottle Necks, Irregular

The irregular necks, distinguished by the characteristics described above, can be sub-divided on the basis of form. The shape of the neck profile may vary from concave to straight to convex, the latter having several variations (Jones 1967: 11). Further sub-division rests upon the form of the string rim and the lip finish. Relative diameter of lip and string rim is a significant feature employed in the following classification.

Irregular, Straight Neck (1) (Figs. 120a, 121a)

One sherd of a straight-necked bottle has a flared lip which has been smoothed. At the line of the flare is a scar where the string rim has broken away. It may have been a V tooled form.

Irregular, Straight Neck (2) (Figs. 120b, 121b)

One specimen with a straight to slightly concave neck has a downtooled lip which overhangs the flattened, slightly downtooled string rim.

Irregular, Straight Neck (3) (Figs. 120c, 121c)

This specimen with a straight neck has a wide, flattened, slightly downtooled string rim and a rounded, downtooled lip of the same diameter as the string rim.

Irregular, Convex Neck (4) (Figs. 122a, 123)

This specimen with a convex neck form has a slightly downtooled beveled lip and a flat, downtooled string rim of irregular width. Probably McKearin and McKearin Type 9, 1790-1810 (1941: 423-5).

Irregular, Convex Neck (5) (Figs. 122b, 123)

This convex neck has a protruding narrow string rim with the downtooled lip folded over the string rim.

Irregular, Convex Neck (4) (Figs. 122a, 123)

This convex neck form has a slightly downtooled beveled lip and a flat downtooled string rim of irregular width. Probably McKearin and McKearin Type 9, 1790-1810 (1941: 423-5).

Irregular, Convex Neck (5) (Figs. 122b, 123)

This convex neck has a protruding narrow string rim with the downtooled lip folded over the string rim. The top of the lip is beveled and it is the same diameter as the string rim. There is a groove on the interior of the lip.

Irregular, Convex Neck (6) (Figs. 122c, 123)
Two examples of this irregular form were found. It is distinguished by a string rim which is uptooled on the bottom side forming a distinctive profile. The top of the string rim is downtooled and the lip is also downtooled but of smaller diameter than the string rim. There is an interior lip groove. These specimens resemble McKearin and McKearin Type 8 of 1770-90 (1941: 423-5).

Irregular, Convex Neck (7) (Figs. 123, 124)
The most common specimen is of this form with a total of 11 examples present. The neck is convex. The string rim is flattened and slightly downtooled. The lip is wide, rounded to beveled, and downtooled and is usually larger in diameter than the string rim. The neck recurves at its juncture with the shoulder. One specimen retains a twisted wire closure (Fig. 124b). It is notable that the wire is wrapped around the finish in the groove between the top of the string rim and the bottom of the lip, rather than around the bottom of the string rim. These specimens are most like McKearin and McKearin Type 10, 1790-1810 (1941: 423-5) and fall into Jones's Type I (Jones 1967: 33-4) as described from Fort Lennox. The context from which the Type I specimens Jones studied were recovered also provided much of the ditch fill from which these specimens were taken.

Table 18 summarizes stratigraphic distribution and Table 2, Appendix C, includes details.

Bottle Necks, Regular

The regular necks, distinguished by their more uniform dimensions and the horizontal striations around the string rims and lips, can also be subdivided on the basis of the form of these parts.

Regular, Convex Neck (8) (Figs. 125a, 126)

The most common example is seen in eight specimens with convex necks. They have flattened string rims. The rounded and beveled lip is of larger diameter than the string rim. These specimens may resemble McKearin and McKearin Type 11, 1820-30 (1941: 423-5). The category includes two specimens (Fig. 125c) similar in form but distinguished by slightly wider lips.

Regular, Convex Neck (9) (Figs. 125b, 126)

One specimen has a downtooled, outflared string rim and a vertical collar-like lip of the same diameter as the string rim. Possibly McKearin and McKearin Type 12, 1840-60 (1941: 423-5).

Regular, Convex Neck (10) (Figs. 125d, 126)

This convex neck specimen has a string rim with a pronounced outflared base and a vertical lip. The string rim is larger in diameter then the lip.

Regular, Convex Neck (11)

This specimen superficially resembles (10) above in the outflared string rim base and vertical neck. However, the diameter of lip and string rim is the same and there is a pronounced ridge on the interior lip (Fig. 139). This specimen is also a different light green colour and in this trait belongs in the miscellaneous category described below rather than with the olive-coloured wine bottles. It is described here to note the significance of the interior ridge and colour since its form is similar to other specimens.

Regular, Straight Neck (12) (Figs. 127a, 126)

This specimen appears to have a straight neck profile with an outflared string rim and a rounded lip. Its reddish-brown colour is also distinctive.

Regular, Convex Neck (13) (Figs. 127b, 126)

On this convex neck both the string rim and the lip are rounded in form and of the same uniform diameter.

Regular, Indeterminate Neck (14) (Figs. 127c, 126)

This specimen consists only of the finish segment which is a wide collar-like lip, smaller in diameter at the mouth than at the base. There is no string rim but there is a trace of an uncontrolled glass flow at the base of the collar.

These specimens are all tabulated with their dimensions in Table 2 of Appendix C. Stratigraphic distribution is summarized in Table 18.

Bottle Bases, Irregular

Irregular, Small-Diameter Push-up Rod,
Sand Pontil (4) (Fig. 131a)

Two specimens have high-domed, almost conical push-ups with a small diameter circular push-up rod mark at the top of the push-up. One of these has a small, transverse slot in this push-up mark. The surface of the push-up has the traces of the sand pontil (Jones 1971: 70). Another example has an oval mark at the top of the push-up.

Irregular, Large Diameter Push-up, Sand Pontil (5)

Another category of the sand pontil bottle bases consists of specimens with a domed push-up bearing surface traces of the sand pontil technique (Jones 1971). These are distinguished by a relatively large diameter push-up tool mark at the top of the push-up, the impression of the tool being indistinct in some cases. This is the most common variety in this collection. There appears to be a correlation between larger base diameter and the larger push-up tool.

Irregular, Conical Push-up, Small Push-up Rod Mark, Sand Pontil (6) (Fig. 130)

Four examples have rather conical domed bases with small diameter push-up rod marks in the top of the push-up and evidence of the sand pontil on the sides of the push-up.

Irregular, Sand Pontil, Fragments (?)

Several specimens can be classified as irregular in form and with sand pontils but cannot be grouped into the sub-types described above.

These specimens are listed in Table 3 of Appendix C and in Table 18.

Bottle Bases, regular

A small number of round-sectioned bottle bases exhibit the traits of a straight vertical (non-sagged) side wall above the heel and symmetrical diameters. It is possible that such bases might be correlated with the "regular" class of bottle neck/finishes but this cannot be demonstrated on the basis of complete specimens.

The small number of specimens suggests a sub-classification since each exhibits some unique traits.

Regular, Conical, Irregular Push-up (1) (Fig. 132a)

This specimen has a conical shaped push-up with an indentation of very small diameter at the top, indicating a small diameter rod was used to form the push-up. The surface and an irregular lump of glass indicate the use of a sand pontil.

Regular, Conical, Concentric Rings (2) (Figs. 132b, 128)

This specimen has a low conical push-up with a distinct circular mark of small diameter at the top. A concentric ridge is located midway between the resting surface and the top of the push-up. The push-up surface is pebbly but only around the rod mark is there evidence of a small sand pontil.

Regular, Rounded Conical Push-up (3) (Fig. 132c)

This specimen has a slightly rounded conical push-up with a tiny circular rod mark at the top. A distinct ridge encircles the bottom of the push-up just above the resting surface. The surface is slightly pebbly; there is no evidence of a sand pontil and some other tool was probably employed.

Regular, Indeterminate Push-ups (4)

Several other bottle base sherds can be classified as regular on the basis of their side wall form but cannot be grouped further because they lack remnants of the push-up.

These specimens are listed in Table 4 of Appendix C and in Table 18.

Body sherds, round-sectioned wine bottles

A large number of body sherds from round-sectioned wine bottles was recovered. These specimens could not be directly associated with the rim and base fragments discussed above but must come from bottles of the various types described.

The body sherds are listed in Table 5 of Appendix C. The colour of the metal was determined and is recorded in the summary in Table 17.

Bottle Base, square-sectioned bottles

One specimen is the corner of a large, square bottle base (5G44F2-2) originally more than 74 mm across the base. The complete dimension cannot be measured. The base has a slight push-up, 12 mm high. In the centre of the base there is a circular glass ring, the typical pontil scar when the blow pipe has been used as the pontil rod (Jones 1971: Fig. 14). The pontil ring has an interior diameter of 16 mm and is 28 mm in its outer diameter (Fig. 133a). The specimen is tabulated in Table 19.

Another square-sectioned bottle base (5G48D1-196) is 70 mm by 72 mm with beveled edges on the bottom edge of the base. The base is slightly dislocated by a push-up, irregular and circular in form, 55 mm in diameter. The basal push-up is moulded and a mould seam extends diagonally across the base of the bottle (Fig. 133b).

A bottle base, square-sectioned bottle, has a moulded basal push-up which consists of a 35-mm-diameter circle and a central star-like form (5G57A1-9). The sides of the base are rounded and 10 mm wide. The base is 65 mm across (Fig. 113c).

Another example is the basal fragment of a square-sectioned bottle of indeterminate original size. The moulded basal square push-up is 45 mm across; the bottom edges of the base are rounded (5G57B2-22; Fig. 133d).

A final example of a square-sectioned base is 40.9 mm by 41.5 mm in size and has a 27-mm-diameter circular pontil scar on the flat bottom (5G48A3-18).

These specimens are listed in Table 6 of Appendix C and in Table 19.

Bottle Base, octagonal-sectioned bottle

One octagonally sectioned bottle base bears a circular glass pontil scar from the blowpipe used as the pontil. The scar is 25 mm in diameter. The push-up also has two indented dots in a circle (5G48A5-65). The colour is 2.5GY (Fig. 135).

Another octagonal bottle base fragment (5G48A3-19) has a beveled basal edge. The corners are flattened but the bottle is perhaps closer to square-sectioned than octagonal. Its colour is 10GY.

Body sherds, flat panel

A number of flat panel body sherds and corner sherds are identifiable as the fragments of square-sectioned or octagonal bottles. These specimens are tabulated in

Table 7, Appendix C, and metal colour data are included in Table 17.

Bottle Finish, Wide-Mouthed, Olive

One specimen of olive metal (10Y) has a flared lip 9 mm wide. The estimated diameter is 60 mm with an interior diameter at the lip of 41 mm and a neck diameter of 48 mm. The neck is low, being 5 mm high. The rounded shoulder retains a trace of the beginning of flat-paneled body walls and the specimen (Figs. 136, 137*d*) may have been part of a square- or octagonal-sectioned bottle similar to those found at Ft. Michilimackinac (Brown 1971: Figs. 8, 9).

This specimen is listed in Table 8 of Appendix C and in Table 18.

Bottle Finish, Wide-Mouthed, Clear

Two specimens are wide-mouthed bottles of clear to greenish metal (Figs. 136, 137*b*, *c*). These have thickened rims formed by folding the finish over to form a 9 mm thickened rim. The thickened rims are 5 mm to 6.5 mm in thickness. Estimated diameters are 44 mm.

These specimens are listed in Table 8 of Appendix C and in Table 18.

Bottle Finish, Wide Mouth with String Rim

A single large diameter bottle neck and finish of greenish clear metal has a finish with a thick rounded lip and a narrow rounded string rim (Figs. 137*a*, 139). The neck is convex in outline. The specimen is more likely the neck of a large volume container rather than a large mouthed bottle similar to the three described immediately above. The exterior rim diameter is 42 mm; the interior diameter is

30 mm. Mid-neck diameter is 46 mm and the height is 90 mm from lip to the beginning of the shoulder.

Champagne Bottle Fragments

Several specimens can be identified as being sherds from champagne bottles of the 1870-1920 period (Toulouse 1969).

The rim of one straight-necked bottle has a broad, flat band around the finish below the lip forming a string rim (Figs. 138*a*, 139*a*). The neck is straight to slightly concave in outline and has diagonally spiraling stress lines visible in the greenish (5GY) metal. The diameter of the string rim is 31 mm (5G44D3).

A second rim fragment (5G48C1-87) has a similar string rim form (Fig. 139*b*) but is less well defined.

Another fragment clearly of this bottle type is the nipple-like projection from the top of the push-up (Fig. 138*d*). The projecting bulb is 22 mm high and 23 mm in diameter.

Two fragments of push-ups are also included in this category on the basis of similar metal, but are too small for accurate classification.

A body sherd from the side of the base and a fragment of a conical push-up are also included on the basis of similarity of metal. The push-up lacks the downward projection nipple (Fig. 138*c*).

A finish fragment, probably related to the base sherd and conical push-up, is similar in metal and neck profile but has a collared finish rather than the string rim band (Fig. 138*b*). Its form does not, therefore, precisely match that of the champagne finish illustrated by Toulouse.

Two fragments of a finish fragment with the paneled string rim around the neck below the lip have the shape of the champagne bottle finish but differ in being of clear metal (Fig. 140a).

Miscellaneous Bottle Finishes

Some bottle finishes of clear to greenish-clear metal do not fit into previously described categories. One of these is a small diameter rim much like some of the wine bottle forms with a string rim below a larger collared upper rim, but is about half the size of the wine bottles (Figs. 141c, 140b). It is 2.5 BG colour and has a maximum diameter of 19.7 mm. The interior diameter at the lip is 13.5 mm. The top rim is 9.7 mm wide and the lower string rim is 6.2 mm wide. The specimen is listed in Table 18.

A small fragment of a possible wide-mouthed bottle with a narrow 5-mm-wide string rim folded at the lip is present, but the sherd is too small for accurate classification.

A short-necked specimen with a narrow ridge or string rim below a broad collared incomplete rim is of clear metal (5G57B2-19). A distinctive feature is an internal ridge within the neck at the point of string rim location. The neck is 17.3 mm between the bottle shoulder and the base of the string rim. Maximum diameter is 27 mm on the exterior (Fig. 139h).

The finish segment of a greenish clear specimen is also distinguished by the presence of an interior ridge (Fig. 139g). It is fragmentary but has a high collared upper rim and an outflared angular string rim (Fig. 141b).

Bottle Finishes, Castor Oil Form

Two bottle finishes classified as the castor oil form (J.W. Walker 1971: Fig. 27) were present. These specimens have straight necks with a visible, vertical mould seam and twisted spiraling stress lines in the 2.5 to 7.5 BG bluish green clear metal. The finish is a broad collar (Figs. 141a, 139c, d). The one complete neck is 57 mm high from shoulder to lip. Mid-neck diameter is 24.5 mm and the maximum collar diameter is 26 mm. Interior diameter is 16 mm. These specimens are listed in Table 18.

Bottle Bases, Miscellaneous

Several specimens are single examples of a variety and are described individually here. Smaller and indeterminate bottle base fragments are included with the body sherd tabulations.

A moulded example is the 71-mm-diameter base of a round-sectioned bottle with a flat moulded bottom (5G57B2-102). The letters are difficult to read but the name KARL HUTTER and some other word were moulded around the beveled edge of the basal indentation (Figs. 142d, 140f). The moulding indicates a probable date in the 1870s for this specimen, (Jones 1971: 72).

One bottle base is from a round-bottomed bottle which would not stand up. It is 2.5 BG in colour and has a mould seam encircling the rounded-sectioned body 31 mm above the bottom. At the end of the round bottom is a small, raised bump or dimple. The specimen is 62 mm in diameter (5G57B2-23; Figs. 142a, 140e).

This specimen, on the basis of its colour and context may have been part of a bottle with moulded lettering on the side. Some of the body sherds described in the next section may have been part of this specimen (Blumenstein 1966: 60). Dating may be 1860-1913 (Newman 1970: 73).

These specimens are listed in Table 18.

Four fragments of bottle bases of greenish clear metal and high domed push-ups are also present. One fragment bears a vertical mould seam on the vessel wall (Fig. 140c).

One large sherd is the base of a large, nearly flat-bottomed vessel, possibly a modern gallon jug form.

Pharmaceutical Bottle Bases, Round-Sectioned

Several small greenish clear bottle bases may be fragments of pharmaceutical bottles.

One example (5G45A1) is 7.5GY in colour and 43 mm in diameter. It has a pontil mark (?) from a glass-tipped pontil.

Another specimen (5G48A2-25) is cylindrical in section and has a small, moulded square in the bottom of its slightly concave base. Its estimated diameter is 20 mm and its colour bluish green (2.5BG).

The base of a small cylindrical bottle (5G48B2-192) is 10GY greenish yellow colour and 50 mm in diameter. Concentric lines may be seen on the base and there is a trace of a vertical mould seam on the side. A second fragment of another bottle of similar diameter lacks the seam but is also most likely a moulded bottle (5G48D1-77).

A final example is a small part of the base of a cylindrical bottle with an estimated diameter of 80 mm. It is green (7.5G) and has concentric lines (mould marks?) on the bottom (5G48C3-20).

These specimens are listed in Table 18.

Pharmaceutical Bottle Bases, Square-Sectioned

Several small square-sectioned bottle bases are described here. They may be pharmaceutical bottle fragments.

One larger specimen (5G48C3-18) is 40.5 mm by 41 mm in size. The corners are slightly beveled. There is a circular pontil mark on the bottom with traces of adhering glass. The mark is a ring and appears to be a blowpipe scar with a maximum diameter of 31 mm. The specimen is greenish (Fig. 142c).

A second specimen (5G48A3-19) is not measurable, but was of a similar size to the one described above. Its corners have a more pronouced beveling or flattening. A small corner fragment is also present (5G48C1-90). Both are greenish.

Another square (?) bottle base sherd is the corner of a small bottle, but not of measurable size. The corners were probably not beveled. The base is slightly concave (5G44B5-85). The specimen is greenish.

The base and a body fragment of a small, clear square pharmaceutical bottle was found (5G48C1-92). The base is 20 mm in size. There are traces of raised, moulded letters on the body sherd but they cannot be read (Fig. 142b).

Pharmaceutical bottle rims

A small number of specimens was classified as fragments of pharmaceutical bottles.

The most common rim form on such specimens is a flanged rim with a very short neck. One such specimen (5G48B1-197) has a flange 24 mm in diameter and 3 mm thick. The neck is 15 mm in diameter and 13 mm high. The metal is clear (Fig. 142).

Another specimen of similar form (5G48B2) is sufficiently complete to retain a portion of the flanged rim. The neck is 18.8 mm in diameter and 16.5 mm high. Its colour is 5YR. This specimen has remnants of a rounded shoulder (Fig. 142).

A third rim is straight-walled and has a simple, direct rounded lip (5G49D1-5). It is 2.5 BG in colour. The estimated diameter of the neck and rim is 20 mm (Fig. 142).

These specimens are listed in Table 18.

Bottle Body Sherds, Moulded

Specimens in this category are examples which bear traces of moulded decoration, words or labels (Fig. 143). These specimens are listed in Table 19. These specimens are mostly of 2.5 BG colour and are probably all from similar bottles although the vessel form cannot be determined from these sherds. Some of the body sherds lacking moulded decoration are included in other tabulations but can be associated with these on the basis of the colour.

One specimen (5G57B2-23) has a moulded label in a circle, indented. The letters are illegible because of the fragmentary nature of the specimen but the letter "R" may be read.

Another specimen has a trace of a vertical mould seam on the side of the bottle; the bottle is round-sectioned. The moulded letters have a vertical orientation, paralleling the long axis of the bottle. The word is incomplete, ..PBEL... being present (5G57B2-23).

A similarly vertically oriented label, perhaps from the opposite side of the same bottle, bears the moulded letters: MED.... and M.... above one another (5G57B2-23).

Five specimens bear traces of moulded lettering with a horizontal orientation at right angles to the long axis of the bottle. One has traces of an indeterminate letter or design. The others bear letters 10 mm high except the last letter which is 8 mm. The letters are ..T....., I"..."3,...LD...., ..B...,....TSBUR., 9, N.Y. The last specimen presumably read PLATTSBURG, N.Y. (5G57B2-23).

Additional examples of moulded body sherds include one small clear glass square-sectioned bottle base, 20.5 mm by 21 mm in size, with the moulded letters ..TENT and ....E....

on it. It is presumably a pharmaceutical bottle, and they may have read "patent" originally (5G48C1-92).

Another bottle sherd has a vertical mould seam and the moulded letters ....UBL in a vertical orientation along the long axis of the body. The letters are 8 mm high. The word may have been "double" (5G48D1-266).

One specimen from a flat-panelled bottle has the moulded letters ...ETT'S (5G44B10-1).

These specimens are listed in Table 18.

Moulded specimens are important because they may provide a significant chronological marker indicative of dates in the 1870s.

Bottle Seals

One specimen of a moulded bottle seal was found. It is a well-made moulded seal. The name BOOTH, the number 55 and CO..... (Company?) are legible. There are additional letters in the central part of the seal. It is incomplete (5G48B1-19; Fig. 144).

Miscellaneous Body Sherds

A number of body sherds of miscellaneous, light greenish and clear metal are listed separately because they do not belong to any of the typological categories previously discussed.

One specimen bears mould seams on the shoulder area, and traces of moulding on one or two other specimens indicate that all specimens in this category were probably fragments of moulded bottles. These specimens are listed in Table 17 and in Table 11 of Appendix C.

Modern Bottle Glass

A number of modern bottle glass sherds such as Pepsi Cola bottles were present. These specimens are listed in Table 16 and in Table 12, Appendix C. Their significance is largely as a measure of intrusion of later materials in various stratigraphic levels. As seen in Table 16 such sherds are found in these stratigraphic horizons above the ditch fills and date to a late period in the occupation of the island.

Bottle Glass Colour Distribution

Table 13 in Appendix C lists bottle glass sherds by excavation lot and by colour of the metal. These data are summarized in Table 17 in which excavation lots from all operations are combined according to their relationships above and below the ditch fill stratum.

The sod layer may be discounted as useless for stratigraphic analysis, and the sample of glass from the ditch bottom level of clay is very small. The ditch fill as opposed to the fill deposits above the ditch exhibit some possible changing trends in the relative frequency of glass colours. Yellow and greenish-yellow hues appear to be declining while green, blue green, blue and purple blue hues increase, as does clear glass.

Bottles, Summary

Table 18 summarizes the stratigraphic distribution of various bottle bases and bottle rim types. The main conclusions which can be drawn from these distributions are chronological.

Late bottle forms such as the champagne, the castor oil and molded lettered specimens are all found in stratigraphic units above the fill of the old fortification ditches. The levels in which these specimens are found were thought to post-date 1828 on the basis of historical-stratigraphic analysis and these late specimens confirm this conclusion. The late date on some of these bottle fragments may require the adjustment of the dating of these soils above the ditch line.

Site period estimates based on the earliest date estimated for the latest types of bottle fragments present are also shown in Table 19. These data confirm the dating of the ditch fills to the Period III occupation of the site as expected on historical grounds.

Glass Artifacts

In addition to the bottle glass fragments there were a number of fragmentary glass artifacts recovered from the old fortification ditch fill levels. These include wine glasses tumblers and miscellaneous fragments.

Wine Glasses

Several fragments of wine glasses are present in the collection. Nine fragments are sherds from the bowls of the glasses (5G44B6-8; 5G44D8-11; 5G48B5-14; 5G48B2-198 [three specimens]; 5G48D2-181, 5G57B2-26; 5G57B2-26?; 5G48B1-180). Three of these sherds have rounded lips.

More complete wine glasses are represented by base and stem fragments descibed below.

The one relatively complete bowl (Fig. 145) is of the trumpet shape (Haynes 1948: 195). The simple, normal stem continues the tapered line of the bowl. The foot on this specimen is missing (5G44D2-2).

A complete wine glass foot (5G44D12-3) is of plain, conical form with a small flattened knop at the base of the stem. The stem is missing. There is no trace of a pontil mark on this foot.

A fragmentary wine glass foot (5G49A6-6) is also of plain, conical form and has a flattened knop at the base of the stem scar. The stem is missing. There is a trace of a pontil mark on the bottom of the foot.

A very thin glass bowl fragment with a moulded scalloped line and a re-curved profile may be a fragment of a wine glass bowl (5G57B2-26). An ogee shaped bowl is implied by the small fragment (Haynes 1948: 195).

Glass vessel bases

Base fragments of several glass tumblers/decanters or other vessels were recovered. These may be divided into two broad categories although each specimen exhibits unique combinations of characteristics. One group has a pontil mark on the base; the other group lacks such marks and is moulded (or cut?). The pontil mark specimens are all round-sectioned; the others are both round and octagonal.

Vessel Bases, Pontil-Marked

One specimen (5G48D3-16) has a thick base with a deeply indented central push-up 22.5 mm in diameter, marked by a ridge of glass from the pontil. The resting point is scratched from wear. Sides of the vessel are missing but it was round in section (Fig. 146).

A second specimen is very similar to the one above except that the basal indentation or push-up is not as deep; its glassy pontil scar is 30.0 mm in diameter (5G48A5-114). Its resting surface is also scratched from use. Slightly outflaring walls may be inferred.

The base of a round-sectioned tumbler or vessel (decanter?) was also recovered (5G44D3-74); its distinguishing feature is that the base is very thin. The resting surface is scratched from wear. Possibly a decanter base although the diameter is similar to the thicker specimens. The glassy chipped pontil mark is 18 mm in diameter and the base is slightly indented. Vessel walls were slightly outflaring.

A second thin specimen had a 20-mm-diameter glass pontil mark (5G48B8-39). The base is slightly indented; the resting surface scratched and the walls outflaring, but straight - possibly a decanter base.

Vessel Bases, Moulded

A very thick, heavy basal fragment (5G48A4-55) is octagonal in section. The base is deeply indented and the outer edge around the resting surface is beveled. The vessel walls are straight but slightly outflared. The resting surface is ground from use. The indented base is domed (Fig. 147).

A second thick, octagonal base (5G48B5-15) differs in that the bottom of the vessel is only slightly concave rather than deeply indented. The resting surface is not worn. The side panels exhibit minute vertical striations.

Another vessel base with flat panels has 14 panels. The resting surface is slightly scratched; the bottom of the vessel is concave but only moderately deep (5G57B1-8).

A fourth specimen (5G57B2-25) is thick-walled and has a deeply indented domed bottom. The resting surface is not badly worn.

A thin walled specimen (5G44D15-9) has a rounded heel. The resting surface is not scratched. The bottom is slightly concave. Straight, vertical walls may be inferred.

A final example (5G48B2-205) is moulded with scalloped fluting on the bottom radiating from a central point. The slightly outflared sides are rounded with six sections present in slightly more than half of the vessel. The flat resting surface is slightly scratched from use. The moulded bottom is slightly concave, moderately deep (Fig. 148).

Glass vessel Body Sherds

Several paneled or fluted body sherds, presumably from vessels similar to the basal forms described above, were also found. One is a rounded lip on the collar-like rim above traces of rounded fluting or vertical panels (5G57B2-19). A second fragment lacks the lip but is probably from the same vessel.

Two body sherds include segments of flat wall panels similar in size to the octagonal bases described above and may be part of those vessels (5G57B2-19).

Several small fragments of moulded bodies cannot be further identified due to their small size (5G48B7-8; 5G48B2-198; 5G48B2-198).

Two plain body sherds from a straight-sided glass vessel (5G48B2-198) is probably a fragment of a specimen similar to the tumbler or decanters described above.

Two vessel wall fragments include segments of plain rounded lips (5G48B1-181; 5G48C1-92) and may be fragments of tumblers although their association with the bases described above cannot be demonstrated by cross-mending.

Miscellaneous Glass Artifacts

One fragment of plate glass (5G44B7-7) is 9 mm thick. Its original shape cannot be determined.

A rim fragment of a cylindrical-necked vessel with a thickened lip was also found (5G57B2-19; Fig. 149).

A neck of a vessel with a thickened lip and a cordon around the mid-neck area was also present (5G57B2-23). On the interior side of the mid-neck cordon there is a pronounced groove. The specimen may be part of a decanter.

Another possible decanter fragment (5G57B3-12) is broken and lacks evidence of the lip but has an exterior cordon around the neck. The inside lacks the groove.

A rim fragment of a glass vessel cover is made of white opaque glass (5G57B2-94). The top has a slightly domed profile and a flange-like rim. Two widely spaced concentric narrow raised lines are present on the domed top. The moulded letters ...YD S are located on the flanged margin of the rim.

A light bluish green (2.5BG 8/6) fragment of a moulded glass vessel (5G44B5-95) is smooth on its interior (?) concave surface. On the exterior are a dot and two central concentric rings with fluted ridges radiating outwards in all directions.

A thin moulded glass specimen (5G48A3-18) has ridges and corresponding grooves on the outside and inside surfaces respectively. The specimen could be part of a decanter or other vessel but is too small for identification.

Another thin specimen (5G57B2-19) has an outflared, curved side and a narrow circular flanged base. The lip of the base is scratched as a resting surface. It may be a fragment of a lamp chimney or other globe but is too small for identification.

A second small fragment may also be a chimney base (5G48B1-181) but is more curved in the narrow flange and lacks the scratches on the resting surface.

A third specimen (5G48A3-32) has a very narrow, flanged lip, too narrow to serve as part of a chimney base. It may be a lip of a vessel, but its form cannot be determined from the small sherd.

Three very thin, curved glass fragments with discolouration due to burning may be parts of lamp or lantern chimneys (5G57B2-26).

A multi-curved fragment may be a section of a lamp chimney (5G57B2-26).

A larger fragment of irregularly curved glass (5G57B2-25) may be distorted from partial melting. Its original form is indeterminate. Two other melted glass fragments were found in the same lot.

The glass artifacts are tabulated in Table 16 of Appendix C.

Window Pane Glass Fragments

Flat glass fragments from window panes totalled 241 specimens ranging in thickness from 1.0 mm to 2.5 mm. Four additional specimens ranging in thickness from 3.5 mm to 9.5 mm were also found. The mean thickness of the window glass fragments is 1.76 mm and the modal thickness is 2.3 mm. The specimens are generally green to greenish-yellow hues.

A summary of combined operation stratigraphic distributions of these specimens indicates that only one specimen was from a context associated with the occupation of the early ditches. A few specimens were recovered from ditch fill levels, but most of the specimens were found in stratigraphic layers above the ditch lines, suggesting that these specimens are primarily late and post-date the 1828 completion of Fort Lennox.

Sod	29
Levels above ditch line	253
Ditch fill layers	39
Ditch bottom clay	1

The specimens are listed in Table 17 of Appendix C.

Buttons and Insignia

The specimens recovered from the fortification ditch excavations include a number of buttons and parts of military insignia. Some of these specimens can be dated or related to the military units stationed on Ile-aux-Noix during specific periods and therefore may be of some use in chronological analysis of the stratigraphy.

Buttons

Several different types of buttons were present. Cast white metal and plain iron buttons are most common. Glass, shell, bone and brass specimens were also found. The buttons are listed in Tables 20 and 21.

Iron Buttons

The most common iron buttons were concave-convex in cross-section. The concave face has a narrow, flattened rim around the perimeter. Four holes are present in the centre. The specimens range from 17.4 mm to 19.5 mm in diameter and are 2 mm thick. Two specimens retain traces of black paint. These iron buttons are similar in general appearance to those illustrated by South (1964: 121) as Type 21 but are solid iron rather than iron over a fiber centre as were the Brunswick examples (Figs. 150a, 151a; [5G44B5-3; 5G48B2-168; 5G48B2-169; 5G48B2-170; 5G48C1-169; 5G482-18; 5G48D1-168; 5G48D2-229; 5G48D2-230; 5G48D2-231]).

Two iron buttons have eyes on the back instead of holes. One is the concave back of a two-piece button too badly deteriorated to describe further. The other has a slightly concave plain face and a flat back with an eye cast in the centre. It is very similar to some of the cast white metal specimens except for the material (Fig. 150b; 5G48C1-170; 5G48C1-171).

Cast White Metal Buttons

Fifteen buttons are made of cast white metal. On the back they have a central boss with a transverse ridge in which an iron eye was cast. These examples are thus similar to Type 29 from Brunswick Town (South 1964: 123) and Olsen's Type C (Olsen 1963: Fig. 1). Some specimens are plain but most bear moulded designs and/or regimental numbers on the face. Many are marked NUTTING LONDON on the back in moulded relief. Similarities in the form of the boss lead to the inference that many of the unmarked specimens may also have been made by Nutting.

Plain

Two plain smooth-faced examples are present. One (5G48A1-57) has a large boss with traces of the iron eye remaining (Fig. 150c). The face is slightly convex and plain. Traces of the words NUTTING LONDON are visible. The mark is moulded on the back. The second example (5G48B2-214) also has a slightly convex plain face. The boss is relatively small and contains the remains of an iron eye. The mould seam and casting plug are evident on the back of the specimen (Fig. 152a).

15

One specimen is markedly convex on the face and concave on the back. Transverse mould seam is visible on the back, and an iron eye was cast into a central rounded boss. There is a flat edge around the perimeter of the back and the words NUTTING LONDON are moulded around the boss. On the face the number 15 is located in the centre and is surrounded by a wreath and an eight-pointed star within an encircling line (Figs. 152b, 153). The points of the star are formed by groups of moulded rays (5G48B1-193). This button is like one illustrated by Emilio (1911: Plate 7, 703) and identified as the button of the 15th Foot, which served in Canada between 1827 and 1840 (Emilio 1911: 127-8). The 15th was at Ile-aux-Noix in 1830 (Stewart 1962; Herst, pers. com.). The specimen from Ile-aux-Noix is similar but not identical to the button of this regiment illustrated by Parkyn (1956: 118, No. 163). Parkyn indicates this design predates 1855 (Parkyn 1956: 117). Jelks illustrates a similar specimen from Signal Hill (Jelks 1973: Fig. 86r).

31

One specimen (5G44F3-23) has a nearly flat face and back. On the back an iron eye is cast into a large, domed boss. On the face the number 31 is located in the centre, surrounded by a raised single-line circle (Figs. 152c, 153). This is probably a button of the 31st Huntingdonshire Regiment of Foot, about 1800 (Parkyn 1956: 171).

43

One specimen (5G48A4-46) is also made with an iron eye cast in a boss on the back of the button. The specimen is battered. On the face the number 43 surrounded by a wreath is seen in a raised moulded decoration (Figs. 153, 154a). The specimen was too poorly preserved to attempt to remove the patina on the back which may obscure a mark. The specimen is similar to one illustrated by Emilio, an example marked Nutting, London (Emilio 1911: 128; Plate 7, 708). Emilio dates the specimen 1835-44. Parkyn (1956: 217) indicates the design was retained until 1871.

53

Another specimen (5G48D1-169) is markedly convex on the face and concave on the back. It has an iron eye cast in a boss on the back. On the face, moulded in relief are the numberals 53 within a single raised line around the perimeter of the button (Figs. 153, 154b). The specimen is probably of the 53rd Regiment of Foot sometime between 1755 and 1881 (Parkyn 1956: 251), although the closed encircling line differs from that illustrated by Parkyn (1956: 253).

60

Another large cast white metal button has a trace of an iron eye cast into a boss on the back. The numeral 60 and a surrounding floral wreath are moulded in relief on the face (5G48D1-170). The specimen is probably of the 60th (Royal American) Regiment (Parkyn 1956: 259; 262, No. 432).

65

The most common white metal cast buttons were marked with the numeral 65. All have a slightly concave back with an iron eye cast in a central boss. On the face the numeral 65 is surrounded by a single raised line circle. This is a later style button (Parkyn 1956: 277) and is of the 65th

Regiment of Foot (2nd Yorkshire North Riding) (Parkyn 1956: 276). Emilio (1911: 103; Plate 5, No. 577) illustrates a similar button. All but one large specimen (5G48C1-172) is marked NUTTING LONDON in relief moulded letters around the back. An encircling raised line is associated with these letters. One small specimen (5G48D2-233) is not marked but is too small to carry the lettering. (The marked specimens are 5G48C1-116; 5G48C1-118; 5G48B2-215; 5G48C1-117; 5G48D2-232; 5G48D2-234.)

Makers' names appear on button backs after 1800 (Parkyn 1956: 4). Nutting manufactured buttons between about 1800 and 1840 (Herst: pers. com.).

Brass Buttons

Plain, 4 Holes

One brass specimen (5G44D3-49) is a small button with four holes in its concave centre. The rim around the perimeter is flat.

Plain

A plain brass button (5G48B3-78) has a smooth, polished face. The back is rough cast and has a remnant of a very small casting spur around the socket where the shank of an eye was probably located. The button is flat, with a slightly rounded edge. Horizontal parallel scratches are present on the plain face (Figs. 150, 156d).

Three Cannon

One small brass button (5G48B1) has a deeply convex face and concave back. A trace of an iron eye is present in a narrow boss on the centre of the back and was probably cast in place when the button was manufactured. On the face the moulded relief design is worn and indistinct. It consists of three cannon, one above the other, surmounted by a crown. It lacks the shield around the cannon on similar buttons illustrated by Emilio (1911: Plate 5, No. 601) and Parkyn (1956; No. 54). Such buttons are those of the Royal Regiment of Artillery. A button with a crown over three guns was worn from 1831 to 1840 and again between 1855 and 1873 (Parkyn 1956: 56). The Ile-aux-Noix specimen is illustrated in Figure 153. Jelks illustrates, in his work on Signal Hill, specimens like the Ile-aux-Noix examples (Jelks 1973: Fig. 86_j_, _k_).

Silver-Plated Specimens

One small brass button (5G44F3-22) has a silver-plated face. The face is convex, the back deeply concave. A central pair of indentations suggest the former presences of a soldered shank and eye, now missing. On the back the relief moulded word PLATED and six rosettes are present. The face has a groove near the edge, and between the groove and the rim is a ring of incised ridges pendant from and at right angles to the groove. The centre of the button face is plain.

A second brass button with traces of silver plating remnant on the face is flat, thin and octagonal in outline. There is a central scar on the back suggestive of a soldered shank and eye attachment. The face is plain, but scratched (5G48C1-173). The specimen is longer than its width and the octagonal shape is formed by three-sided ends and two longer sides (Figs. 153, 156_b_).

Bone Buttons

Several bone buttons were found. One example is the bone back from a two-piece hollow button similar in form to South's type 3 (1726-76); South 1964: 155). The specimen (5G48B3-71) is concave on the interior and convex on the exterior. There is a narrow flange around the exterior perimeter, over which the face would have been crimped. There are four attachment holes at the quadrants of a small diameter groove in the centre of the back. On the interior side the four holes are within an inset central area (Figs. 151b, 157). The interior surface is stained green probably from the now missing metal face.

A second specimen (5G49D2-7) is similarly the bone back of a two-piece button. The convex exterior or back has four holes on a small diameter central groove and a narrow flanged edge to receive the metal face around the perimeter of the edge. Slightly spiral striations radiate from the central groove to the flanged edge. On the interior there is a central guide hole for the manufacturing lathe. The specimen is more conical in section than the other bone back. Its interior is also green stained (Fig. 157).

Two specimens (5G44D1-21 and 5G48B2-210) are flat bone buttons with five holes. There is a wide band around the perimeter of the face and the holes are in a central inset panel. One hole is in the centre and the other four are at quadrant points. One specimen (5G48B2) is flat on the back while the other is slightly convex on the back, although essentially flat in section (Fig. 151c).

One example (5G48A2-56) is a flat button with four holes (Fig. 151d).

A smaller flat button (5G48B2-211) has a lightly rounded edge and a narrow perimeter rim on the face, with an inset central panel. There is an incompletely drilled "hole"-like depression in the centre of the specimen, flanked by two drilled holes within the central panel. The incomplete "hole" or guide mark is present on both face and back of the specimen (Fig. 151_e_).

Another specimen (5G48B2-212) is very similar except that the face is more rounded at the edges in section and the inset central panel is smaller in diameter. There are two drilled holes, one at the centre and one to one side. A third incomplete "hole" is marked by a slight drill mark on both face and back.

The final bone example (5G48B2-213) is a plain, thin flat disc with a single central hole which could be the back of a two-piece button (Fig. 151_f_). Jelks illustrates a similar specimen from Signal Hill (Jelks 1973: Fig. 86, w-z).

Shell Buttons

Several examples of small shell buttons were found.

One specimen (5G48C3-20) has a flat mother-of-pearl face affixed to a brass back. The back is slightly convex and has a cast central eye.

Another specimen (5G48D1-278) is a flat mother-of-pearl disc with four holes at irregular distances apart in the centre of the specimen.

A shell specimen (5G48A-47) is somewhat thicker and its four holes are within an inset central panel.

A decorated shell button (5G48D1-167) is flat on the back and has four holes within an inset central panel on the face. On another example the border of the face has been notched to give a decorative treatment (5G48D2-237; Fig. 157).

These are similar to South's type 22 buttons of 1800-30 (South 1964).

Glass Buttons

Two small glass buttons were also found. One of these (5G48A3-34) is plain. Its back is convex as is the outer edge of the face, giving it a lens-shaped section except for a small central concavity on the face. Four holes are located within the central depression.

The other glass button (5G48C1-110) is similar in form, also having four holes within the central depression. Around the border of the face moulded, parallel grooves give a spiraled decorative effect (Fig. 157).

Button Mould

In addition to the buttons described above, a fragment of a stone button mould was found (Fig. 158). It is broken and may have had more than a single button form on it originally. The stone is 56.5 mm by 56 mm, but incomplete in size and 12 mm thick. The edges are straight and the corners are beveled. The button form is not perfectly round and measures 18.4 mm to 20.8 mm in diameter. The hole is neatly worked. A design is engraved in the bottom of the form and would have produced a raised relief moulded design in the casting. The design consists of a crown at the top with a looped horn at the bottom. The numerals 71 are within the loop of the horn. The numeral is readable as 71 in negative and would therefore have been backwards in the finished casting. The design is crudely engraved and appears to have been "home-made" rather than a commercial mould (5G48D2-238). Assuming the numeral is correctly identified, the button produced in the mould would have been for the 71st Regiment of the Highland Light Infantry (City of Glasgow Regiment; Parkyn 1956: 283, 285), the design being one adopted after 1815 and used until 1871. The 71st Regiment was at Ile-aux-Noix in 1827 (Stewart 1962 via Herst: pers. com.).

Buttons, Summary

The stratigraphic distribution of the buttons is listed in Table 21. Most of the specimens were recovered from stratigraphic contexts above the fill of the fortification ditches and therefore from post-1828 levels.

It is notable that the two bone backs from two-piece buttons both come from relatively early strata, one from the ditch fill and the other from the fill within the No. 2 redoubt area.

The correlation of the identified regimental specimens with the periods of service of those regiments at Fort Lennox and their stratigraphic position are of use in the chronological analysis. Dates estimated from the periods of unit service at Ile-aux-Noix and dates based on button type chronological data cited in the descriptions are included in Table 21, along with site period estimates based on these dates. The dating of these specimens generally confirms the post-1819-28 construction period dating for layers above the filled ditches.

Uniform Insignia, Buckles, Parts

Several metal uniform insignia parts were recovered. They are listed in Table 22 and illustrated in Figs. 159 and 160.

Belt Plate

One specimen (5G44D3-48) is a rectangular brass belt plate. The edges of the face are beveled. There are four flanged attachment rivets on the back, one in each corner. The rivet studs are visible on the face of the specimen. On the face the specimen is engraved in copper plate writing style with the words "M.W. Carey" and "15th Regt." The plate is 56.2 mm by 45.5 mm in size and 2.1 mm thick. A button of the 15th Regiment is described elsewhere (Figs. 159, 161a).

Brass Badge

One specimen is a fragment of a brass badge (5G48A5-78) 0.4 mm in thickness. The back is concave, the face convex and the back follows the contours of the relief-decorated face. The fragment is suggestive of a triangular shape but is too small for the badge to be reconstructed (Fig. 160b).

Brass Numbers

Another brass badge (5G48B1-55) is the cast numeral 65 with drilled shanks at each end for attachment. The badge is 24.7 mm by 38 mm in size and 2 mm thick (Fig. 160d). Buttons of the 65th Regiment of Foot are described elsewhere.

Grenade Badge

A stamped brass specimen (5G48B1-56) with the concave back following the relief contours of the front is in the form of a grenade with a flaming top. Soldered bosses for attachment wire are present on the back. The specimen is 40 mm by 23 mm and the metal is 0.5 mm thick (Fig. 160c).

Round Badge

A brass badge (5G48EL-5) is 43.5 mm in diameter. The design consists of a feline atop a crown with a depressed arch (St. Edward's Crown) (Fig. 162).

Shako Chin Strap Leaves

Several thin brass epaulet leaves were recovered. These are D-shaped and thick crescent-shaped specimens with three holes along the straight or crescent edge. They range from 19.5 mm to 36 mm in width. They are 0.5 mm or less in thickness. Two examples are D-shaped (5G48D1; 5G48B2) and five examples are crescent-shaped (5G48D1; 5G48B1; 5G48D3; 5G48D2; 5G48D2; Fig. 160a, 162). Jelks identifies these objects as Shako chin strap leaves (Jelks 1973: Fig. 87a-f).

Brass Object

One specimen (5G57B2-62) is of brass with a flaring, scalloped end. There are three parallel transverse slots in the centre. A flanged attachment rivet is present at the back of each flared corner. The specimen may be part of a uniform belt clip since a rolled catch could be hooked over the bars between the three slots to form an adjustable attachment. The specimen is 50 mm wide and 1.1 mm thick (Fig. 161b).

Brass Buckle

A thin brass buckle (?) (5G48D3-41) may exemplify the fitting used with the object described above. It is rectangular and 45.5 mm by 22 mm in size. The metal is 0.5 mm thick. The face is plain. A flanged attachment rivet is present in one corner; the other corner is missing. On the centre of the edge opposite the attachment rivets is a protruding section 13 mm wide which is rolled to form a hook. It would serve well to latch onto the slot bars of the specimen described above, although the relative difference in thickness of the two specimens must be noted (Fig. 161c).

Frog

A brass frog with two rivet stumps on the back is 47.9 mm long and 13.9 mm wide (5G44B5-12; Fig. 162).

Epaulet fragment

A quarter-moon-shaped copper object (5G48C1-142) is made of thin sheet copper 1.0 mm thick. It is concave-convex in cross-section and has a row of closely spaced holes along the inner edge of the semi-circle. It may be a portion of an epaulet (Fig. 162).

Miscellaneous Artifacts

A wide variety of artifacts other than ceramics, pipes, glass and buttons was recovered from the excavations. These specimens are described in this chapter. Some of these specimens, coins for example, are of some aid in the chronological evaluation of the stratigraphic units in the excavations. Due to the mixed nature of the contents of the stratified ditch fill deposits, only specifically datable specimens are useful in that analysis.

Since the ditch fills were derived from a wide variety of sources, the association of specimens in those contexts does not have significance for social interpretation at the site. The specimens are briefly described and illustrated for what comparative value they may have in reports dealing with specific structures and their contents at Ile-aux-Noix.

Coins and Tokens

Two coins and a token were found in the excavations. They are listed in Table 23.

One specimen is a copper token (5G44B5-90) issued by the Banque du Peuple in 1838. The obverse bears the words "Agriculture & Commerce Bas Canada" and a surrounding bouquet. The reverse bears "Banque du Peuple Montreal" and a surrounding wreath around the words "un sou" (Haxby and Willey 1971: 129; Charlton 1965: 28). This specimen came from the stratigraphic layer of fill above the ditch line, a zone thought to date after the 1828 construction phase. Its context and date confirm the historical-stratigraphic analysis of this layer (Fig. 163).

A copper coin of half-penny size (26.8 mm in diameter) is too badly worn to be legible (5G44D10-8).

Another coin of half-penny size (5G57B3-6) was recovered from the ditch fill level of another operation. It, too, is illegible but the trace of a bust can be seen on the obverse side.

Brass Wire Cones

A brass wire object (5G48B2-175) consists of a double cone of coiled wire, tapering to each end, larger in the centre. It is 42 mm long and 11 mm in diameter. Second example (5G48B1; Fig. 164). Four small cones made of copper wire wound into a cone shape (5G48D2-228) have an S-shaped hook at one end. These cones could have been trade materials for exchange with Indians.

Copper Rod

A copper object (5G48B2-176) was found. It is a crushed cylindrical ring, possibly a ferrule or fitting from a shaft.

Copper Ring

A copper ring 3.2 mm wide and 43.2 mm in diameter was also found (5G48C1-164). It is unidentified.

Wick Holder

The brass wick holder from a lamp was found in a ditch fill context (5G44D3-44). It is 44 mm in diameter on the bottom and 21.5 mm high (Fig. 165b).

Brass Object

An unidentified brass object (5G44D3-46) is 55.8 mm long and 15.8 mm wide. It is 4 mm thick. One end is rounded, the other broken. There is a scallop in one side. In the rounded end is a hole 7.2 mm in diameter (Fig. 166c).

Brass Thimble

A brass thimble (5G48A2-53) from a sod level is 14 mm in diameter and 0.5 mm thick.

Perforated Brass

A rectangular brass object with eight holes arranged in two squares, one at each end was found in the sod level (5G48A5-79). It is 40 mm long, 15.9 mm wide, 0.8 mm thick and the holes are 1.7 mm in diameter. It is unidentified (Fig. 166a).

Jew's Harp

A brass Jew's harp was found in the fill above the ditch line (5G48B2-167). It is 42.8 mm long (Fig. 166b).

Fitting

A flanged brass fitting 64 mm in diameter was found in the sod level (5G44A1-62). It is unidentified.

Brass Wire Buckle (?)

A small rectangular object of brass wire (5G48B1) is distorted and bent but appears to have been rectangular with rounded corners. A central cross bar was soldered to it. It would serve as an adjusting buckle for a narrow strap. Its dimensions are 20.5 mm by 14 mm. The wire is 1.9 mm in diameter.

Miscellaneous Objects

A rectangular-sectioned brass spike was found.

A brass fragment (5G45A1-34) has a diameter of 8 mm and a battered, slightly flared end. It is a tapered cylinder with a crushed flattened end - possibly the top from a cane or stick (Fig. 166d).

A piece of a perforated copper strip (5G44B5-45) is 19.8 mm long and 0.6 mm thick. The 5.2-mm-diameter hole is punched rather than drilled.

Another perforated copper object is a large sheet 215 mm long and 52 mm wide. It is 2.4 mm thick and has twelve irregular nail holes in it (5G48B8-18).

An unidentified copper object is 1.2 mm thick (5G48C1-119), while a triangular fragment (5G48C1-139) is 1.0 mm thick. It was fastened by loops at the corners and was torn from the object to which it was affixed (Fig. 166e).

A copper strip 50 mm long and 19 mm wide was found. It is 0.9 mm thick (5G48D1-151).

A slightly concave-convex brass disc (5G44A1-61) has a cylindrical ring in the centre of the concave side. The ring has small holes in opposite sides, possibly for the attachment of a wooden handle. In the socket-like collar on the exterior or convex side there is a slight central depression in which the end of a square head is present; on the interior the shank has been flattened as a rivet. The object is unidentified (Fig. 165a).

An unidentified copper fragment (5G48C1-119) is triangular, made from thin sheet copper, bent at right angles near its centre and the narrow end curled.

Buzzer

A round lead object with central perforations (5G44D7-23) has tooth-like projections around the perimeter. It looks like a gear but the teeth are not uniform and some are bent. It is probably part of a buzzer spun around two strings passed through the control holes. It is 35 mm in diameter and 1.0 mm thick. The central hole is 3.3 mm in diameter (Fig. 167).

Lead Scraps

Two scraps of lead 0.9 mm thick were also recovered (5G48B3-50); another (5G57B2-69) is 0.6 mm thick.

Three long fragments of lead range from 92 mm to 132 mm in length and 18 mm to 26 mm in width. They are all about 10 mm thick (5G49C1-3). These are layered and formed from strips pounded together.

Miscellaneous Buckles

Brass

A brass buckle (5G44B5-13) is rectangular in shape. It is 40.3 mm long and 22.1 mm wide. The tongue is crimped around one long side, but is loose and movable. The opposite side has rounded corners and a cylindrical fitting around the side of the buckle. The cylinder rotates freely to facilitate pulling the belt strap (Fig. 168_a_).

Iron

Several iron buckles were found; some in poor condition. One (5G44D5-9) is rectangular and 42 mm long by 32 mm wide. The tongue is crimped to one long side and is 25 mm long. The opposite side has rounded corners (Fig. 168_b_). A similar specimen (5G48A1-58) is 26 mm long and 22 mm wide. Its tongue is 22 mm long (Fig. 168_e_).

A badly rusted specimen (5G48B8-36) bears a trace of an attached tongue. The buckle is 35.5 mm long by 30.7 mm wide.

A nearly square buckle (5G48C1-165) is 30 mm long and 25 mm wide.

An iron buckle fragment (5G48C2-14) is 29 mm wide.

Another specimen (5G48D2-204) is 28.5 mm by 23 mm in size and has a long (23 mm) pointed tongue.

A larger iron buckle (5G57B2-53) is D-shaped with a flared, slightly pounded and flattened side against which the tip of the tongue rests. The 35-mm-long tongue is crimped to the other side. The buckle is 35 mm long and 45 mm wide (Fig. 168_c_).

A small iron specimen is rectangular with rounded corners (5G48D1-171). It has a central iron cross bar with two tines on one side. It may be a knee-band buckle. It is 31 mm long and 21.2 mm wide (Fig. 168_d_).

Pewter

A large rectangular pewter _shoe_ buckle with a moulded design (Fig. 168_f_) is 76.5 mm long and 51.4 mm wide. The long side has an open centre. Its straps are 14.5 mm wide on the long side and 12.9 mm wide on the short ends (5G48D3-44). The relief moulded design consists of three parallel ridges with rows of dots between them.

Gunflints

Gunflints include both the spall (Hamilton 1964; Stone 1970) and blade (Stone 1970; Witthoft 1966) varieties.

One spall type (5G45A1-35) is 30 mm long, 40 mm wide and 9 mm thick. The back is rounded and the bulb of percussion is visible on the top. The prepared striking platform is on the heel.

A second spall type (5G57B4-4) is 27.2 mm long, 30 mm wide and 7.9 mm thick at the rounded heel or back, at the striking platform. The bulb of percussion is on the top (Fig. 169a, c).

The most complete of the blade type flints (5G48B2-216) is 29.2 mm long, 28 mm wide and 6.2 mm to 8.7 mm thick. The top is a flat flake scar 13.2 mm by 20.5 mm in size. The specimen is trapezoidal in cross-section (Fig. 169b, d, s). The entire surface of the heel exhibits small chipping scars. The sides are secondarily chipped only at the bottom, the remainder being a flat flake scar. The front and one corner are broken off from use.

Another example (5G48B2-217) is an incomplete fragment. It is 30.5 mm long and 26.5 mm wide and 12.3 mm thick. The dimensions are close to the complete size; the back corners are broken off. A portion of the top flat flake scar is visible. The specimen could have been re-used in its present form.

An incomplete blade type gunflint fragment (5G48D1-119) is 29 mm long and 27.5 mm (incomplete) wide, and 6 mm thick. One corner is rounded, apparently from rechipping a broken flint to prepare it for re-use.

Iron Artifacts

Forks

Several forks were recovered. One example is made of brass and has a broad, flattened handle with a narrow shank. It has four tines. It has several marks on the back of the handle shank, including the initials GS in a shield (Figs. 170, 171g). The specimen is complete and is 197 mm long (5G57B2-54). The handle end is 22.5 mm wide and the tine portion is 56 mm long.

A fork handle made of iron with bone sides (5G57B2-66) was also found. It is 90 mm long, 18 mm wide and 12 mm thick.

The double tine and shank fragment of an iron fork 104 mm long was recovered from an upper ditch fill lot (5G57B3-17).

The end of a three-tined fork came from a lens above the ditch fill (5G48D2-205). The longest tine is 42.8 mm long but is incomplete. The width of the tine end of the fork is 16.5 mm.

The fragmentary shank and part of the end of a two-tined fork was also present (5G48C1-158). It is broken at the tine end so that its 98 mm length is incomplete. The tine portion was flattened, the shank is rounded and terminates in a square-sectioned tang which must have been inserted in a wooden or bone handle, now missing.

Another example of a two-tined fork (5G48C1-154) is 182 mm long but incomplete. It is a larger fork than those described above, but similar in form with a rounded shank and a narrower tang for insertion into a missing handle element (Fig. 171a-c).

Spoons

One iron spoon bowl 74 mm long and 44 mm wide was found (5G48B1-81).

Knives

The handle end of an iron knife with a bone handle was recovered (5G57B2-65). The handle was 77 mm long and 19.2 mm wide. The broken blade is 22 mm wide and 1.8 mm thick. The handle was riveted to the tang which, like the handle, was narrower than the blade. The blade length is indeterminate.

A part of the blade and the shank end of an iron knife was recovered from a ditch fill context (5G57B4-11). It is too fragmentary for meaningful measurement.

Another knife blade fragment, from a lens above the ditch fill is of iron with a blade 26 mm wide and 2.5 mm thick. The 150 mm length is incomplete (5G48D2-203).

A straight iron blade fragment (5G48B2-174) is 135 mm long and tapers from 5.2 mm to 2.9 mm in thickness.

A knife blade with a narrow tang and a broad blade (5G48C1-155) was also present. Its dimensions are 63 mm long, 18 mm wide and 5 mm thick.

Another iron knife was 1.0 mm thick. The specimen was 230 mm long including the flat tang which was 95 mm in length. The blade is 22 mm wide and the tang is 19 mm in width (5G48D1-301).

An iron knife blade fragment 47.0 mm by 21.5 mm by 1.8 mm thick (5G44B3-3) was also found.

An iron knife (5G35M1) has a metal blade with handle tang to which a metal side piece is affixed on each side. The metal side plates are inset and have pegs for the attachment of bone or wood handles. The maker's mark T. GILL is stamped on the blade (Fig. 172).

Another probable knife fragment is a handle with bone panels on an iron specimen (5G44D1-31). It is one side of the handle. The iron is 1.5 mm thick. The specimen could be the end of a knife handle (Fig. 173a).

Razors

The fragments identified as parts of razors include one curved specimen 122 mm in length and 16.5 mm wide. It is 2.8 mm thick and has two rivets 4 mm in diameter near one end (5G44D3-47).

A razor or knife handle of iron with bone handle sides (5G44D4-1) consists of a layer of metal 4.8 mm thick between two bone panels, one on each side. The iron and bone panels are held together with two rivets. The bone is decorated or roughened for a good grip with a criss-cross pattern of scratches. The total length of the specimen is 112 mm and it is 13.8 mm thick (Fig. 173b).

Bone Handle Fragments

Bone handle fragments include one specimen (5G48B1-74) with a decoration consisting of small, rectangular incisions arranged in parallel diagonal rows on either side of a central area marked by longitudinal scratches. The specimen is 19.5 mm wide and incomplete in length. Another bone handle fragment (5G57B2-67) was also present.

Miscellaneous tools

Parts of various tools were also found and are described below. These specimens are listed in Table 23.

Unidentified, shank

One two-piece fragment of an unidentified tool consists of two pieces of iron held together by a rivet 43 mm long. The two iron pieces are curved to fit around a wooden shaft. The specimen is part of the iron shank of a shovel or other blade which had a wooden handle (5G48D1-264; Fig. 173c).

Another shank fragment is 227 mm long, 21 mm wide and 2 mm thick.

Pick blade

A curved fragment of heavy iron has been identified as a portion of a pick blade (5G48D2-226). It is from the central portion of a pick tine. Its incomplete length is 125 mm. It measures 33 mm by 36 mm in section.

Files

An iron file with diagonal cutting ridges is 66 mm long, 20 mm wide and 4.5 mm thick (5G48D1-263).

Saw

Part of a toothed sawblade 381 mm long, 70 mm wide and 1.9 mm thick was recovered (5G57B3-14).

Another fragmentary iron saw blade (5G49B1-12) is 145 mm long, 30 mm wide and 5 mm thick. The teeth are 17 mm deep and 30 mm long; four teeth remain. The back is irregular and interpreted as being incomplete. The specimen may be part of an ice saw.

Whetstone

Specimens identified as tools include a fragment of a whetstone (5G57B2-88) 86 mm long, 30.5 mm wide and 18.5 mm thick.

Scissors

A fragment of a scissors blade made of iron was also recovered (5G48C1-159). One specimen is a scissors fragment with part of a handle present (5G48B3-76).

A more complete scissors blade (5G57B2-58) is a complete half of a scissors 145 mm long. The handle is 38 mm by 27.5 mm and the blade is 79 mm long and 15 mm wide.

A scissors with a curved blade tip and part of handle was also present (5G44D6-11; Fig. 173*d*, *e*).

Iron Chain

An iron chain (5G44B5-11) with hooks at each end has twisted links of figure-8 shape. The links are 19.1 mm long. Another specimen of similar twisted links (5G48A5-76) has a total length of 130 mm and links 35.5 mm long. A third figure-8 link (5G48B2-173) is 66 mm long and is made of 4.9 mm diameter wire. A fourth specimen (5G49B3-16) is also of figure-8 links of 3-mm-diameter wire.

Iron Rings

One iron ring 17 mm thick has an exterior diameter of 23 mm and an interior diameter of 10 mm (5G49A5-4).

Flat Iron Ring

A flat iron ring (5G44D11-14) 45 mm in diameter is 26.5 mm wide and 8 mm thick.

Rope Thimble

A large eye or iron thimble for a rope eye was found (5G44D11-8). It is 25.5 mm wide. Its maximum diameter is 61 mm and the interior diameter of the eye is 46.5 mm.

Iron Boot Heel Cleats

Several examples of iron boot heel cleats of horseshoe-like form were found. Often worn and badly rusted, these artifacts have five holes (one at the back and two on each side). Nails sometimes remain in the holes. The thickness ranges from 1.0 mm to 4.8 mm, depending upon the degree of wear, while the width of the cleat metal is usually about 12 mm. Cleats range from 55 mm to 66.8 mm in length and from 46.2 mm to 71 mm in width (Fig. 174). These specimens are listed in Table 23.

Iron Pot Fragments

Several fragments of iron pots were recovered. One specimen (5G44D5-12) is 5 mm thick. Another (5G48A6-9) is part of a pot rim with a rolled edge. The diameter of the vessel is more than 260 mm. Another 260-mm fragment (5G48B3-49) was also found. A pot base (5G48B1-76) has a diameter of 210 mm. Three fragments (5G48B2-185) of a pot with a rim diameter of 240 mm were also recovered. A second example of a rolled rim fragment (5G48E1-2) came from above the ditch fill line, while a 9.5-mm-thick specimen was found in the ditch fill (5G48E2-26). A plain rim (5G49D2-11) of 7-mm thickness was also found; it came from fill levels within the British redoubt No. 2 on the west side of the island.

An additional example of an iron pot rim came from the sod level at the west salient (5G57B1-41). The body was 1.0 mm thick and had a rim 10 mm thick and 22 mm wide riveted in place at 35 mm intervals. The fragment is 130 mm by 120 mm in size.

Coffee Grinder

The domed interior part of an iron coffee grinder was recovered (5G48A5-77). It is 45 mm high and 92 mm in diameter, and was found in the sod level (Fig. 175a).

Iron Cotter

An iron specimen with a cylindrical shank terminating in a split end (5G48A5-111) was found and may be a cotter pin. The shank is 5.3 mm by 7.5 mm in diameter. It was found in a sod level.

Two additional cotters, triangular in outline, were recovered from sod and upper topsoil levels (5G49B1-11; 5G49E2-8). One was 110 mm long, 3 mm thick and tapered from 24 mm to a point. The other was 160 mm by 45 mm by 7 mm.

Iron Box

Part of an iron box 0.8 mm thick was found in two pieces (5G48B1-77). Its form is not identifiable.

Barrel Hoop

One iron barrel hoop was recovered. It is a strap 980 mm long and 32 mm wide and 2.1 mm thick. The strap overlaps itself 78 mm and was fastened by a rivet. The diameter of the rivet could not be determined due to the rusted condition of the specimen (5G48B2-232).

Flat-Iron

An iron flat-iron was recovered from the ditch fill levels near the northwest shoulder (5G48E2-13). The triangular base is 151 mm long and 100 mm wide. The base is 23 mm thick. The handle was 83 mm high and the overall height of the iron is 105 mm.

Iron Key

A large iron key (5G57B2-49) was found in a layer above the filled ditch line. It is 121 mm long, has a shank 9 mm in diameter, and a blade 20 mm by 24 mm (Fig. 175b).

Iron Plate with Screw

An iron plate with a 27-mm-long screw through a hole in the plate was found above the ditch fill levels (5G57B2-52). The plate is 32 mm by 32 mm in size and 2.8 mm thick.

Fragment of Stove Top

A cast iron fragment of a stove top (5G57B2-56) was found. It is a curved, triangular fragment from between two lid holes. The lid holes were 190 mm (7-1/2 in.) in diameter. The plate fragment is 6.1 mm thick and 238 mm by 102 mm by 17 mm in size. The lid holes are flanged to receive the lid.

Iron Gear

An iron gear (5G57B2-63) consists of a toothed wheel 43 mm in diameter. From its centre, a rod 65 mm long protrudes and terminates in a small gear-toothed end. The specimen could be part of a lightweight manual egg-beater but has not been identified.

Trunk Band

The iron corner band from a trunk (5G44D9-27) has a central rivet 4.2 mm in diameter. One end of the band is rounded. At the opposite end it is bent to form a corner. The metal is 4.2 mm thick. Its length is 41.3 mm and its width is 39.5 mm.

Cylinder

An iron cylinder, 27 mm long and 31 mm in diameter, was found. It is 2.5 mm thick (5G48A3-36) and came from the sod level.

Unidentified Iron Objects

A number of fragmentary iron artifacts are unidentifiable. They are briefly described, where possible, in Table 1, Appendix D, and summarized in Table 23. One of them could be a bottle closer (Fig. 175c).

Three unidentifiable, irregular, hollow iron objects included in this category were recovered from the fill of the oldest French ditch (5G49C2). These unidentifiable specimens are among the few found in that context.

Swords and Bayonets

One specimen (5G48D1-164) has been identified as the curved handle of a sword. It is of iron and is 13 mm thick. This identification is questionable due to the fragmentary and nondescript condition of the specimen, which could be just a bent piece of strap iron.

Another iron fragment (5G48D1-163) has been identified as a sword blade fragment. It is 138 mm long and tapers from 8.0 mm to 18.5 mm wide. The thickness is 0.8 mm at the edges and 7 mm at the centre of the triangular section (Fig. 126b).

A probable bayonet 293 mm in length was found (5G48E2-27) in the ditch fill. The long blade fragment is bent at right angles to a cylindrical socket 82 mm in length. The socket is 25 mm in diameter and has a slotted side. The blade has been bent out of alignment. The blade is connected to the socket by a cylindrical shank. At the centre the blade is triangular in cross-section and at the tip it tapers into a cylindrical point (Fig. 176a).

Shot, Shells and Casings

Hollow shells are the most common type of cannonball fragment recovered. Most are fragments ranging in estimated size from 4 inches to 4-1/2 inches in diameter.

Five small, solid shot were found. One of these was recovered from the fill of the earliest French fortification ditch exposure and may be a shot fired during the siege of the island.

One lead ball of 18.8 mm diameter (.75 cal.) was recovered.

All of these specimens are listed in Table 24.

A modern .45 calibre shell casing and numerous modern shotgun shell brass bases were found. The former in a sod level, the latter in stratigraphic zones above the filled ditch line and in post-1828 strata.

Building Hardware

Unidentified

An unidentified object, possibly part of an iron foot-scraper, has a form similar to a staple (5G49A8-1). It is 108 mm long, 40 mm high and 8 mm thick.

Key

An iron key for structural purposes (5G45A1-23) is 390 mm long, 18 mm wide and 6 mm thick.

Eyebolt

The end of an iron eyebolt (5G48F1-10) has a maximum exterior diameter of 24 mm at the eye. The shank is 7 mm in diameter.

Brace

A long iron brace with one sharpened end and several 25-mm-long screws are found at 65-mm intervals. The brace is 252 mm long and 40 mm wide (5G57B2-35). One end is pointed, the other bent at right angles to form a corner angle.

Another fitting with screws (5G57B2-36) is 178 mm long, 40 mm wide, 2 mm thick, and also has screws 25 mm long through it.

Strap Hinges with Rolled Gudgeon End

Several long, tapered strap hinges with a rolled gudgeon cylinder at the wide end were found. These are perforated along the centre-line for attachment.

One specimen (5G49C2-2) is 250 mm long, 36 mm wide at the wide end and 5 mm thick. It has two 5-mm-diameter countersunk screw holes. This specimen is one of the few items recovered from the fill of the oldest French ditch identified during the excavations (Fig. 177a).

Another gudgeon end strap hinge (5G49C1-2) lacks remnant perforations (Fig. 177b).

One gudgeon end specimen of a strap hinge is incomplete. It is 150 mm long, 25 mm wide and 2 mm thick. The gudgeon is 56 mm long and 8.2 mm in diameter (5G49D2-10). This specimen was recovered from fills within the British redoubt No. 2.

A fragment of a gudgeon (5G49A5-3) is 104 mm long, 35 mm wide and 2.8 mm thick.

Two strap hinge gudgeons (5G57B2-50, -51) have the following dimensions. Lengths: 32 mm, 77 mm; widths: 21 mm, and 28 mm; thickness: 3.7 mm and 3.1 mm. Each has three holes 6 mm and 5.5 mm in diameter, for attachment. On one the distance between the holes is 24 mm. The other retains a screw 27 mm long in one of the holes.

Another example of the same type of strap hinge is 65 mm long and 23 mm wide (5G48C1-156). A different fragment is 55 mm long and the metal has a thickness of 3.2 mm (5G48A1-32).

A large specimen (5G48B1-53) is 120 mm long and 30 mm wide. It tapers to a rounded end which is bent. At the gudgeon end the metal has split where it had been hammered together and a strip 52 mm long angles from the hinge end (Fig. 177c).

Leaf Hinges

An iron rectangular leaf hinge (5G48B2-179) is 127 mm long and 19 mm wide with a thickness of 2.9 mm.

A brass leaf hinge (5G48A2-50) is 63.4 mm long, 13 mm wide and 2 mm thick. It has three holes and the gudgeon is central on the side of the leaf. It may have been a furniture rather than a structural hinge (Fig. 178a, b).

The central part of a large H-shaped hinge (5G35M1) was also recovered from fill levels. There are five holes in the strap (Fig. 178d).

Pintle and Gudgeon Hinges

An iron pintle of a hinge has an 82-mm-long tang while the pintle arm is 71 mm in length (5G57B4-10). This specimen is from the lower ditch fill levels (Fig. 178f).

A tanged gudgeon 130 mm long with a socket 23 mm in diameter was found in the sod level (5G44A1-56; Fig. 178e).

An unidentified perforated iron fitting also came from the sod layer (5G44A1-57). It is 91 mm by 40 mm by 2.3 mm.

Latch

A possible latch (5G44D9-9) is incomplete at one end. It has a large central hole 25 mm in diameter and a tapered, rounded back. The specimen tapers in cross-section from a thickness of 4.5 mm at the butt to 1.1 mm at the blade end. It is 118 mm long and 48 mm wide. There is a small 4-mm-diameter hole at the butt end (Fig. 179a).

Latch Part

One small latch part (5G35M1) consists of a tang for attachment and a stop behind which the latch bar was placed. A brace-extension from the outer end bends back and down and has a single screw hole in the expanded end (Fig. 179b).

Latch Bar

A two-piece specimen (5G57B2-40) consists of a short bar riveted to form a pivot for the end of a longer attached bar which has a central knob for lifting the bar latch. The smaller strap is 62 mm by 19 mm. The long latch bar is 180 mm long, probably incomplete, 18 mm wide and 3 mm thick. The rivet handle is 11 mm in diameter (Fig. 179c).

Thumb Latch

A small thumb piece from a thumb latch is 11 mm wide but otherwise too fragmentary for meaningful measurement (5G48B2-184).

Lock Plate

A plate from a rectangular door lock (5G44D3-45) is 90 mm long and 61 mm wide. An internal plate is 64 mm long (Fig. 180a).

Lock

Another fragment of a door lock plate (5G57B2-39) is a fragment with one corner and two edges at right angles to the plate face which is still intact. The maximum incomplete length is 152 mm. The incomplete width is 75 mm. The thickness of the box edges is 20 mm and the thickness of the iron plate itself is 2.2 mm (Fig. 180b).

Padlock Hasp

One padlock hasp fragment was found (5G48A1-31). It is 56 mm by 45 mm in size.

Hooks

Two doorhooks (or shutter hooks) were found. One (5G57B2-48) is 62 mm long but incomplete. Its width is 10 mm and the thickness of the flat iron plate is 3.1 mm. The shank behind the hook is 38 mm long and tapers from 11 mm to 7.5 mm wide just behind the hook end.

The other hook (5G57B2-43) is complete. Overall length is 175 mm. At one end is a 32 mm by 33 mm eye. The shank is 20 mm wide and 9.7 mm thick. The hook end is 40 mm across (Fig. 179d).

Nuts, bolts, washers, etc.

Nuts and Bolts

One nut and bolt combination (5G44F3-27) consists of a bolt 467 mm long and 17.5 mm in diameter. A nut 32 mm square and 15 mm thick is screwed on the bolt.

Another long bolt is 325 mm in length and 11 mm in diameter (5G45A1-24), and a second (5G45A1-29) from the same operation is 370 mm in length and 22 mm in diameter. Longitudinal striations can be seen on this wrought iron specimen.

A shorter specimen only 54 mm in length was also recovered in a different area (5G48D1-262). Another bolt (5G57B2-55) is 37 mm long and 11 mm in diameter.

Washers

Iron washers with central holes were also found. One (5G48C1-157) has a diameter of 34.8 mm and a hole 16.3 mm in diameter.

Another washer is 22 mm to 23 mm in diameter and 7.5 mm thick. Its hole is 5 mm in diameter (5G48D1-304).

A rectangular washer 40 mm by 46 mm in size has a hole of 18 mm diameter. The iron is 2.6 mm thick (5G48F2-9). A second square washer is 54 mm by 54 mm in size, 5 mm thick, and has a 14-mm-diameter hole (5G57B2-37).

Two screws were found; one is 44 mm and the other is 37 mm in length (5G48D1-260, 261).

Two iron staples (5G57B2-61), each 45 mm long, were also recovered in the excavations.

One iron bolt 16.8 mm in diameter and 304 mm long (5G44A1-54) was found in the sod level.

Iron Rods

Several iron rods, either blacksmith's waste or fragments of artifacts, are tabulated in Table 23. They are of varying lengths (from 42 mm to 593 mm) and varying diameters (from 3 mm to 21.6 mm).

Roofing Tin

Fifteen fragments of roofing (?) tin (5G49A6-14) were also found.

One specimen consists of an iron strap 136 mm long and 23 mm wide to which a piece of tin is riveted with three rivets 35 mm apart (5G57B2-41).

Nails

A total of 1,262 nails or nail fragments was recovered from the excavations. Examples are illustrated in Figures 181 and 182. Most of the specimens are rose headed but flat heads are also present.

A few specimens were modern round-sectioned wire nails.

These are listed in Table 26. These specimens were exclusively from above the ditch line, reflecting the later occupational periods.

Specimens with thick shanks were classified as spikes and are tabulated in Table 25. These range in length from 2 in. to 12 in. Although a few of these specimens were found in the ditch fill and earlier levels, most came from contexts above the line where the fortification ditches could be detected horizonatally and must come from relatively later periods of occupation at the site.

Smaller nails, with rectangular cross-sections from 1-1/4 in. to 6-1/2 in. (or from three penny to 60d sizes), were recovered from stratigraphic layers above the ditch fill levels and are thus from relatively late deposition at the site. These specimens are listed in Table 26.

A second category of smaller nails was distinguished by their square cross-section. They also ranged in size from 1-1/4 in. (3d) to 6 in. (60d) lengths. Like the other nails these were primarily recovered from the later refuse deposits, but they are much more common than the rectangular-sectioned nails in actual ditch fill levels as opposed to the layers above the ditch lines. These specimens are listed in Table 27. This difference in stratigraphic distribution when square- and rectangular-sectioned nails are compared is the most significant information obtained from these specimens. The effort at nail classification was less than for other artifacts and was conducted in the field laboratory during the cleaning and cataloguing process.

Scrap Iron, Strap Iron and Tin

The scrap iron was sorted into several major categories and its stratigraphic distribution recorded. One group of specimens were those classified as plain strap iron fragments. These were long, narrow strips of iron of varying widths and thicknesses (1.0 mm - 5.2 mm; 2 mm - 3 mm most) 190 mm - 52 mm, mostly 20 mm - 30 mm wide, 21 mm - 540 mm long. They lacked perforations. Those specimens, also variable in their dimensions, which included perforations and sometimes rivets or other fasteners were tabulated separately. Irregular fragments of scrap iron were likewise tabulated as a category, while the fourth grouping of specimens included all fragments classified as scraps of tin. Most of the latter was probably roofing material. Fragments of tin boxes were identified on the basis of remnant corners and were treated separately.

Iron Wire

Iron wire fragments from 2 mm to 5 mm in diameter were present in several excavation units. The fragments vary in diameter and length as indicated in the tabulation below.

	Diameter (mm)	Length (mm)
(5G44F3)	2.9	-
(5G48D2)	3.6	102; 85
(5G48D1)	2.0	105
(5G48D1)	3.5	115
(5G48B3)	5.0	170
(5G48B3)	3.5	110
(5G48B1)	2.4	-
(5G48A3)	2.5	-
(5G44A1)	1.8	335
(5G44A1)	1.8	176
(5G44A1)	2.3	140

The stratigraphic distribution of these specimens is recorded in Table 23.

Clay Marble

One fragment of clay marble was found. Diameter cannot be determined (5G48D1-126).

Boot Heel Leather

Two fragments of a boot heel with traces of stitching were found, but are too fragmentary for further identification (Fig. 183a; 5G48B2-190).

Leather Strap

A leather strap fragment (5G48C1-163) is 84 mm long, 27 mm wide and 2.8 mm thick (Fig. 183b).

Barrel Stave

A wooden object (5G48E-28) was identified as a fragment of a barrel stave. It is 555 mm long, 70 mm wide and 17 mm thick.

Coal

A few fragments of coal were recovered (5G48A4-49, 5G48A3-43, 5G48D1-157).

Clay Pigeon Fragments

Two fragments of unidentified objects were recovered (5G44D4-9, 5G57B2-93, 5G44B6-4). They may be parts of clay pigeons.

Cloth

Two fragments of thin black cloth were found (5G44B3-6; Fig. 184).

Aboriginal Artifact

A fragment of a prehistoric artifact (5G44D10-5) was recovered. It is a bit section of an aboriginal celt 50 mm wide and 23 mm thick. Its length is indeterminate (Fig. 185).

Tin Box Fragments

Several specimens of tin were present. Most were from tin boxes of round or square form.

One specimen is the lid of a box (5G44B5-2) with traces of lettering which are illegible.

One specimen is 157 mm long and 1.3 mm thick. It is part of a square tin box (5G44D3-32).

A complete tin box and lid (5G44D3-43) were found. The box is oval in outline, 88 mm long and 23 mm high. The tin is 0.9 mm thick.

Another specimen (5G44D8-16) is a fragment of a riveted tin box with a broad arrow stamped on it.

Nine fragments of a round tin box (5G44D9-26) with a lid were present. The diameter of the box is 50 mm; the thickness of the metal is 1.9 mm.

One modern tin can fragment was also recovered. Its metal is 1.5 mm thick (5G48B1-98). It was found in a layer of topsoil just beneath the sod, a zone thought to be relatively recent in its terminal deposition.

Fragments of a tin box of unidentifiable form (5G48B3-48) were present.

Another round box fragment (5G48D1-161) is 55 mm in diameter.

Base and body fragments of an unidentifiable form of tin box were also present (5G48D1-303).

Thirty-eight fragments of tin (5G57B2-68) are from round and square boxes, and possibly include some roofing tin.

Nine fragments of a square tin box of indeterminate size (5G57B3-18), and ten fragments of a round box (5G57B3-19) were also recovered.

Miscellaneous Stone and Brick

One natural stone fragment was saved from the ditch fill. Such specimens were not common in the fill levels (5G44D10-5).

Two bricks were also found in fill and in the clay level of the ditch. One (5G44F6-3) is 60 mm wide and 45 mm thick and is a coarse brick. The other (5G44F7-4) is 105 mm wide and 52 mm thick. Both are fragments.

One 85-mm-long piece of slag was recovered (5G49A4-10).

A brick from the topsoil (5G44B8-16) measures 188 mm by 95 mm by 44 mm.

Wood Pegs and Chips

Some tapered cylindrical pieces of wood were recovered. Some may be natural and others may have been pegs used in construction. One specimen (5G44A2-1) is 42 mm long and 25.2 mm in diameter.

Seven specimens range in length from 53 mm to 133 mm and in diameter from 16.3 mm to 38.5 mm (5G44D1-38). Another (5G44D12-10) is 50 mm long and 14 mm in diameter.

A large, possibly natural piece of wood (5G45A1-1) is 133.2 mm long and 40 mm in diameter.

One sharpened wooden stake was recovered from the clay layer in the ditch; numerous others were left *in situ* at the end of the season (5G44F8-2).

Ten circular drill-hole chips 1.8 mm thick were recovered from the ditch clay layer (5G44D15-4). Their diameters are 34 mm. Drilled holes were noted in the log structures found in this level and these chips were found adjacent to the drilled timbers.

Summary of Miscellaneous Artifacts

The wide variety of miscellaneous artifact fragments described above is tabulated in stratigraphic unit distribution in Table 23. One specimen, a datable bank token of 1838 was recovered from a stratigraphic layer above the ditch line, and thus offers some additional confirmation that the ditch was filled during the 1819-28 construction period.

The other specimens are more difficult to identify and to date. They come from within stratigraphic layers of undoubtedly mixed contents originally deposited elsewhere and later used as fill material. Thus, the relationships of these specimens to one another are meaningless in an interpretation of structure functions or similar problems.

Chronological Analysis

The chronological analysis of the stratigraphic units in the old fortification ditches began in the field during the course of excavation. As levels of fill or segments of the fortifications were encountered an attempt was made to interpret such features in the light of known events at Ile-aux-Noix. A major chronological point which could be linked or identified in the stratigraphy was the 1819-28 construction phase which saw the old ditches filled to make way for the new Fort Lennox. This included an effort to make very detailed "micro-chronological" historical estimates for each fill layer or lens as has been discussed in connection with the description of the excavation units.

Major historical events at Ile-aux-Noix, based on Lee's (1965) history of the site are listed in Table 28. Table 28 also includes expected median dates for major phases and periods. These are the calculated mid-points of parts of the occupation span. For example, the construction of Fort Lennox began in 1819 and was completed in 1828. The mid-point in this date range is 1823.5 and that mid-date is recorded in the tabulation. These median dates are useful in comparing the historical model of a stratigraphic unit with the ceramic formula date for the same stratum, the formula date being a mean date demonstrably close to the mid-point of known occupations (South 1972).

Table 28 also indicates the expected median dates for various groupings of events within and by the four major site occupation periods.

A longer list of initial and terminal dates derived from those shown in Table 28 is listed in Table 29. For convenience these are listed in groups by terminal date, thus listing together those chronological periods which would be expected to have the same potential content time range. The tabulation does not include all possible date combinations.

It is necessary to list both chronological period dates and potential content dates in Table 29. As discussed earlier, it is most likely that the ditch fill deposits contain mixed materials derived from refuse from earlier occupations at the site as well as refuse from the chronological period of construction or deposition. Thus a stratum of ditch fill deposited in 1819-28 might contain both artifacts from that construction period and artifacts from any previous occupation on the island. The fortification ditch fill deposited in the chronological period 1819-28 has an associated potential content period of 1759-1828. These chronological and potential content periods are both shown in Table 29 with expected median date values. The latter permit a quick comparison of ceramic formula dates with the expected historical model date and its potential content period.

The historical model for each stratigraphic unit is based on reference to Tables 28 and 29. For some stratigraphic features estimated historical dates rest upon some known points in time. The latest possible date was 1966, the date of the excavation season. The earliest date was 1759, the date of the initial French occupation.

The fortification ditch was identified by correlation with historical plans; the assumption that identification was correct permitted subsequent historical date estimates. On this basis the filling of that ditch could be estimated as an event of the Fort Lennox construction period

(1819-28). Consequently, strata below the ditch fill deposits should pre-date 1819 and various date estimates between 1759 and 1819 can be applied to such stratigraphic units. Similarly the strata above the fill line of the fortification ditch must post-date 1828 and fall within the 1828-1966 period. Estimated historical chronologies for each stratigraphic sequence were devised from these reference points.

In some cases, particularly those levels post-dating 1828, the historical models which were applied to some stratigraphic levels represented arbitrary choices which seemed reasonable when the number of deposits was compared to the list of major events after 1828. The historical models for these levels are less secure estimates than those for the ditch fill and lower zones.

Those estimates constitute the stratigraphic-historical models for each series of excavation units. The historical models are listed in Table 30 and are used in later analysis for comparison with the archaeological models for each unit in an attempt to confirm, correct or refine the dating of the stratigraphy.

A variety of archaeological dating estimates can be used to date the stratigraphy based on the specimen content of the deposits.

Archaeological Models: Ceramic Formula Dating

One approach to dating the Ile-aux-Noix stratigraphy is by means of South's ceramic formula dating method (South 1972). This technique is based on the known periods of manufacture of various types from which a median or mid-range date can be calculated. The mid-range type date is multiplied by the number of sherds of the type in the particular excavation unit and the sum of these products for all types in the unit is taken and divided by the number of sherds in the sample. The result is a mean date for the site or for the excavation unit under study. South (1972) demonstrated that such formula dates approximate the median occupation dates for sites of known chronology.

A ceramic formula date has been calculated for each stratigraphic unit in these excavations as one model of the dating of the deposits. This archaeological model can be compared with the expected median dates based on the historical-stratigraphic model analysis. Although formula dates may not be necessary, as some have suggested, they have been used in this analysis in an effort to evaluate the method.

A study of the ceramic types was part of the preparation for analysis of the Ile-aux-Noix materials. One result of that study was the development of cumulative seriation as a method for estimating the modal popularity dates for several ceramic types (Grange 1973a). Some authors had suggested modal date would be more useful for formula dating purposes than South's median type dates (Walker 1972). The earlier study demonstrated that the results were not significantly different when the modal date factors were employed but that the date calculations can be made without some of the adjustments required by South's original method (Grange 1973a).

Ceramic formula dates for Ile-aux-Noix ditch fill deposits were calculated on both median type date and modal type date bases and the results are listed in Table 31. Inspection of the table shows the similarity of dating results resting on the two different type date factors. In subsequent discussions the formula date based on the modal type date factor is the one employed.

In his comments on South's method, Fitting suggested the calculation of standard deviations for ceramic formula dates (Fitting 1972). The usefulness of that calculation was apparent in an attempt to apply the formula method to proto-historic and historic Pawnee sites (Grange 1973b). The standard deviatiion for each formula date is shown in Table 31 and is also expressed as a chronological bracket. If for no other reason the standard deviation serves to indicate the relative rather than absolute qualities of ceramic formula dates. Since others suggested that the standard deviation bracket might be related to site occupation spans, the brackets are shown here and used comparatively in later analysis.

Archaeological Models: Terminus Post Quem

One particularly important archaeological model for the chronology of the stratigraphic units is based on the concept of the *terminus post quem* (Noël Hume 1969: 69). An estimate of the time range of each feature can be based on the earliest dates of the latest artifact types found in each level. That date must be included within the occupation span of the level in question and stratigraphic layers above must post-date that *terminus post quem* limit.

The earliest date of the latest types present in each stratigraphic unit is shown in Table 32. These dates are derived from earlier discussions of ceramics, pipes, glass, buttons and coins. It is notable that the non-ceramic artifacts sometimes provide later dates than do the ceramic specimens, requiring ultimate adjustment of ceramic dating estimates.

Using the dates shown in Table 32 a bracket limit can be constructed for each stratigraphic unit. While most of these dates are similar to other estimates some notable alterations must be made. For example the ditch fill deposits, in the west salient, presumably in place before

1828, contain sherds dated to 1873. These layers were either open much later than originally thought or the specimens are intrusive into earlier deposits. The possibility of intrusion seems most likely as an explanation.

Archaeological Models: Visual Bracketing

South devised a method for estimating chronological periods based on the known periods of manufacture of ceramic types. His visual bracketing method involves graphic representation of the manufacture periods of types present in a site or excavation unit (South 1972: 81-3). He asserts that the method is intended to go beyond the *terminus post quem* dating of a fill deposit and to interpret the occupation period from the ceramic evidence (South 1972: 82). South's method was used in dating the stratigraphic units excavated at Ile-aux-Noix and the results are shown in Table 33.

A modification of South's visual bracketing method, based on periods of modal popularity of ceramic types rather than on total manufacture periods, was also used in the analysis. As in South's method the types are shown on a graph and then the modal periods are added to the plot (Grange 1973). The earliest end of the estimated occupation bracket must touch the earliest modal period. The latest end of the bracket must touch the latest modal period or, if necessary, be extended to include the earliest manufacture date of the latest type present. Modal occupation bracket estimates are also shown in Table 33. Again, these reflect ceramic content.

Final Archaeological Models

The results of the bracketing estimates are combined with the terminus post quem limit brackets in Table 33. A final archaeological model for each stratigraphic element is shown in the table, and represents an adjustment of all of the available archaeological dating, including the formula date standard deviation bracket data.

Table 33 also includes an archaeological model dating estimate for some combined stratigraphic units. These combinations represent the grouping of smaller stratigraphic elements all within a major deposition. Although an attempt at precision dating of each stratigraphic level is part of the following analysis such precision may not be possible and thus dating the major stratigraphic deposits is also undertaken.

Comparison of Historical and Archaeological Models

In the following sections the initial historical-stratigraphic models will be compared with the archaeological models for each excavation unit. In the following tables the estimated historical period for each stratigraphic unit is shown with its associated expected mid-dates. The latter dates are the median date for the period and the associated potential content date. In those cases where several stratigraphic units can be combined into a single major stratigraphic deposit, an historical model for the combined unit is also shown. Parallel archaeological models are included. Inspection of the tables permits comparison of the expected and observed chronologies.

North Face of the First British Fort, Northeast (5G44)

The excavations near the northeast salient of the first British fort and the dating of the stratigraphy are listed in Table 34. The initial working hypothesis in the field was developed by the comparative study of maps and other historical data which were interpreted as indicating that the British utilized part of the original French fortification lines. It was therefore expected that evidence of these two occupations might be found in the stratigraphy of the ditch.

The stratigraphy encountered in the ditch consisted of several sequential layers. There was a sod level, a layer of soil above the ditch line and a series of levels within the ditch. Three layers reflect the filling of the ditch: one was a layer of fill above a rock deposit; a second was a layer of fill below the rock deposit, and the third was a compact layer of logs. Beneath the log level was the original clay bottom of the ditch which included several structural features and a fascine bundle which contained a French earthenware sherd. It was initially assumed that the major part of the ditch must have been filled prior to 1823 in order to permit the removal of structures from the old British fort to a new location in the navy yard, and that the ditch was finally filled by 1828 when Fort Lennox was completed.

The earliest feature in the sequence is the fascine bundle. The possibility that this might be a remnant of the initial French fortification was based on the French earthenware sherd within the bundle of sticks. The single sherd produces a formula date of 1750±0, not reliable for chronometric dating but close to the historical model.

The clay bottom layer in the ditch should contain evidence of both the French and British occupations if the historical model is correct and the layer did contain both French and British ceramics. The 1764±22 formula date is calculated on the total sherd content. Dating of the French earthenware found at the site is difficult and less precise than the dating of British ceramics. The formula date for the layer based on British ceramics alone is 1785±21. Only two sherds, one creamware and one green shell-edge pearlware are present, while three French coarse earthenware sherds were found. There is close agreement between the formula date based on British ceramics and the expected historical model, but the small sample is a problem. The archaeological bracket model is within the expected range. The archaeological evidence confirms the historical identification of the stratigraphic level. It is likely that the 1759-1819 historical estimate represents the true chronology of this deposit.

The log fill layer has a ceramic formula date of 1803±37 in contrast to the expected 1821 period date, but the formula date is between the period date and the potential content expectations. The early formula date is consistent with the expectation that the ditch fill zones would contain trash from early occupation periods as well as from the chronological period of deposition.

The ditch fill below the rock deposit has a formula date of 1822±41, very close to the expected value of 1822. A dated pipe stem from this deposit indicates that some materials were still being intruded into this zone as late as 1847. Intrusion is more likely than that the ditch was unfilled until that late a date. The archaeological model must, however, include 1847.

The ditch fill above the rock level was expected to have a mid-date of about 1825 but the calculated formula date is 1832±32. This probably reflects the downward migration of specimens from deposits above the ditch fill line. The road from the entrance of Fort Lennox to the dock crossed this area and it may be presumed that later artifacts included in fill on the roadway were gradually pushed into underlying stratigraphic levels.

The three stratigraphic levels within the ditch fill may be consolidated into a single major stratigraphic unit. The expected historical model for this deposit is the 1819-28 Fort Lennox construction period. The ceramic formula date of 1829 compares favourably with the expected 1823 mid-date. The period bracket of 1780-1847 emcompasses the expected historical period and probably reflects both the inclusion of early trash in the fill and the subsequent intrusion of later specimens.

The soil level above the ditch was presumed to post-date 1828 and terminate with the end of the major military utilization of the island. The archaeological model for the content of this level is a period of 1847-50, within the expected range, while the 1821±38 formula date itself is closer to the expected potential content date of 1814 than to the period mid-date.

Formula dating of the sod level does not appear to be very effective; the contents of the sod zone reflect most closely the formula date for the entire ceramic collection (*see* Table 31) from the site rather than the relatively recent chronological period the sod zone must truly represent.

The East Flank of the First British Fort and the Glacis

The dating of stratigraphic deposits along the east flank of the British fort and the glacis deposits is shown in Table 35. The formula date for the glacis topsoil level is 1816±43 which is close to the expected potential content date of 1814. *Terminus post quem* limits suggest that this entire level was deposited after the construction of Fort Lennox, consistent with the requirement that the entire glacis of the first fort must have been removed in that process.

The archaeological period model for the east flank is 1820-28, a nearly exact match with the expected 1819-28 historical model. The formula date falls midway between the expected period and content model dates (see Table 35).

The east flank at the northeast salient has a formula date of 1841±32 which is close to the expected 1844 date (see Table 35).

The archaeological data tends to confirm the initial historical estimates made for stratigraphic units along the east flank of the fortification.

North Face, First British Fort, Northwest Shoulder

Excavations along the north side of the first British fort explored a surface depression and geohm resistivity plot of a curving feature thought to be the shoulder angle of the fortification. The stratigraphy is similar to that of the northeast salient but with several additional deposits above the ditch fill line. Historical models for these deposits represent an attempt to correlate possible historical model dates with strata within the 1828-70 limits for the group (see Table 36).

The log layer and clay bottom deposits could not be excavated. Above the log fill were two strata of ditch fill, and as was the case in the northeast section, the initial historical model assumed the lower stratum to represent the 1819-23 period. The formula date is midway between the expected period and potential content dates. The formula date for the upper ditch fill layer is later than the expected dates, reflecting a preponderance of later ceramic types. When both strata are combined as a single major ditch fill unit, the formula date of 1820 is very close to the expected 1823 historical model and the terminus post quem data indicate a range of 1820-26. These archaeological data confirm the historical interpretation of the ditch fill zone.

Formula dates for the various individual strata above the ditch line do not correspond too well with the partly arbitrary historical models. However, the formula date for the combined layers is 1840, which compares favourably with the expected 1849 mid-date for combined units, and the archaeological period model almost exactly matches the historical model.

The West Salient, First British Fort

Additional excavations were carried out to cross-section a V-shaped depression thought to be the salient in the ditch of the first British fort. This part of the ditch was probably entirely of the British construction which was required to reduce the size of the old French lines. Five major stratigraphic levels were identified during the course of the excavation. The dating of these layers is reviewed in Table 37. The ceramic formula dates for the two layers of ditch fill above the log zone are within a few years of the expected historical models. The lower fill date 1816±51 is between the expected period and content dates, and the 1796±39 date of the upper fill is close to the expected potential content date of 1793. The combined unit date of 1808 is earlier than the expected 1823 date but is between that date and the potential content expectation. More significantly the ditch fill contained ironstone sherds of 1873, indicating a far later closure of these deposits than expected. It is unlikely that the old ditch line was actually unfilled at such a late date since it is a place high on the Fort Lennox glacis. It seems much more likely that these late ceramic specimens are intrusive sherds resulting from later repair work in this area. The dates for the lens and fill deposits above the ditch line likewise reflect late ceramic contents probably resulting from continuous repair on the Fort Lennox glacis slope in this area.

Redoubt No. 2

A long narrow test trench was excavated west of Fort Lennox to explore a surface depression. It was hoped that the excavation would expose both part of the British Redoubt No. 2 and part of the original French fortification system. This proved to be the case. Seven major stratigraphic units were identified (*see* Table 38).

The earliest of these units is the fill of the old French ditch, a feature estimated as dating between 1759 and 1760 on historical evidence. The feature may have been filled in by the British before they abandoned the island in 1761. However, the ditch may have been open until the first British fort and its redoubts were built in 1776 and 1782. The initial stratigraphic-historical model is thus 1759-82 for this feature. The only ceramic content of the ditch was French coarse earthenware sherds producing a ceramic formula date of 1750±0. The archaeological evidence is consistent with the identification of the feature as a remnant of the original French fortification system.

The next stratigraphic unit in the sequence consists of fill behind a masonry wall at the north edge of the redoubt ditch. The wall and fill, part of the redoubt structure, must have been erected in 1782 and remained in place until 1819 when the redoubt was leveled to make way for Fort Lennox. Thus the initial historical model is 1782-1819 for the feature although the date should be close to the 1782 construction period. The only ceramic contents were creamware sherds, a type which could have been present in that period and which produces a ceramic formula date of 1770±0. That date is based on the modal popularity estimate of the type; a date based on the median date suggested by South would be 1791±0. Creamware is certainly a horizon marker for the Period II occupation of the island within which the redoubt was constructed. The archaeological evidence confirms the historical interpretation.

The clay layer in the bottom of the ditch was also a redoubt feature open and in use from 1782 until 1819. Its only ceramic contents were refined white earthenware of the post-1820 period. The ceramic formula date of 1860±0 reflects the mid-range of that type, a date later than the expected date. More significantly the refined white earthenwares were introduced about 1820, a date consistent with the 1819-28 period when the redoubt was leveled. Thus the archaeological data may be interpreted as supporting the initial historical interpretation.

The ceramic formula date of 1781 for the combined redoubt fill and redoubt ditch strata is close to the expected historical model, as is the 1762-1820 archaeological period model.

The log layer, like other ditch fill levels, was assumed to have been deposited in the 1819-28 period when Fort Lennox was under construction. Its ceramic formula date of 1820±33 is consistent with the predicted historical model mid-date of 1821.

Additional ditch fill levels south of the masonry wall of the redoubt above the log level were expected to have a mid-date of 1825. Their formula date of 1787±27 matches the potential content date prediction of 1793 better.

Fill levels above the masonry wall but within the ditch line also were expected to date to the 1819-28 construction period, especially the latter part of that period. Their formula date of 1852±27 probably reflects the subsequent intrusion of more post-1820 whiteware into this level.

Dating of the three levels of ditch fill as a single combined unit results in an archaeological period model consistent with the historical prediction, but a later than predicted median formula date. It seems likely that the original chronological interpretation of these layers as fills dating to the 1819-28 period is correct, but that later materials were intruded into the fill levels above the masonry wall.

As in other sections, the sod level dates based on archaeological evidence are earlier than the historical-stratigraphic chronological prediction. The formula date of 1814±48 for the sod level is the mid-date for the 1759-1870 maximum military occupation period. As in the case of other sod levels this one seems to have contents which reflect the entire span of occupation at the site.

Stratigraphic Synthesis

An attempt to group the stratigraphic units of all excavations into a single sequence is also in order. The grouping of stratigraphic levels is based on the same characteristics already discussed. Ditch bottom features represent the two early occupation phases. All fill levels within the ditch line must be assumed to belong to the 1819-28 Fort Lennox construction period. All deposits above the ditch line and below the sod level can be combined as dating from post-1828 to about the 1870 occupation end in the historical model. Historical models for these major groupings of combined stratigraphic units are shown in Table 39, along with the related archaeological models. With the exception of the sod level, the correspondence between the archaeological ceramic formula dates and the expected historical model chronological period dates, is a striking one. The archaeological period models indicate that the ditch fill deposits must have continued to receive some fill or, more likely, some intrusive artifacts as late as 1847 or even as late as 1873 in the west salient area.

Unfortunately the undisturbed occupation strata exposed in these excavations included very few archaeological specimens. The overlying ditch fill deposits contained large quantities of ceramics. As discussed earlier, it is probable that these fill materials include specimens from earlier periods of the occupation as well as items from the chronological period of the deposition. Such mixed contents are not ideal for the application of the ceramic formula dating method. Nevertheless, the archaeological data generally confirm the historical identifications proposed for various stratigraphic units. Although formula dating of some fill layers and smaller deposits was not completely successful, those sub-units can be combined into major stratigraphic deposits, and the formula dating of those combined units as shown in Table 39 corresponds very well with the historical model predictions, despite the mixed nature of the materials. It is also notable that the formula dates do fall in the proper relative sequence, with the exception of the sod level deposits. Almost uniformly the sod level contents seem to reflect the entire range of ceramics of the full occupation of the site.

Summary and Conclusions

Fort Lennox National Historic Park is located on an island in the Richelieu River near Saint-Paul-de-l'Ile-aux-Noix, Quebec. Fort Lennox is the most recent fortification on the island and is preserved as an important historical site.

Ile-aux-Noix saw three major periods of military occupation. The first of these was in 1759 when the French built their first fortification on the island, only to abandon it to the British after a siege. The British in turn abandoned the island in 1761.

New hostilities brought American troops to Ile-aux-Noix in 1775 and a major British period of occupation began in 1776. The British built a fort and redoubt system to defend the island but brought the second period to a close when they left once again in 1809.

The third military period began in 1812 with British reconstruction of their old fort and the establishment of a navy yard on the island. Later in this phase of occupation the present Fort Lennox was built. The military use of the island continued with decreasing intensity until 1870 when the army establishment was closed for good.

During the fourth or modern phase in the history of the island the national historic park was established and in recent years archaeological work has been carried out at the site by the National Historic Parks and Sites Branch, Parks Canada, to obtain data for use in the development and interpretation of the site.

The major objective of the 1966 field season at

Ile-aux-Noix was to locate and excavate some remnant of the fortifications built on the island by the French in 1759. The French fort, like the first British fort and finally Fort Lennox, had been located on the southern end of the island as a defense against invasion from the south along the route of Lake Champlain and the Richelieu River. It was obvious that the construction of Fort Lennox had obliterated most traces of the earlier French and British fortifications.

Study of the historical summary (Lee 1965) and comparative analysis of historical maps and plans indicated that the British re-used part of the old French ditch in their first fort on the island, filling the useless remainder. A portion of the first British fort survived the construction of Fort Lennox, buried beneath the glacis on the north face of the northeast bastion moat. Assuming the re-use hypothesis was correct, it was anticipated that stratigraphic excavation of these ditches might reveal both British and underlying French levels.

It was also evident at the outset that some of the fill deposits in and above the old fortification ditches must have been placed during the 1819-28 period when Fort Lennox was constructed, probably early in that period. This provided an important means of correlating the stratigraphic deposits within and above the ditch lines with historical dates. It was also virtually certain that such ditch fills must include materials from earlier phases of occupation on the island as well as items from the 1819-28 construction period.

In view of the probability of re-deposition, specimens recovered from the fill deposits, unlike those recovered from the floor of a structure, are of little use in adding detail to some facet of military life on Ile-aux-Noix. Their primary value lies in the use of these archaeological specimens to date various stratigraphic units and in turn to shed some light on the identification of French ditches re-used by the British and French features merely buried to obliterate them. The focus of the archaeological problem is thus to identify and date fortification features and thus to confirm or reject hypotheses based on the comparative analysis of historical plans.

It was difficult to locate undisturbed original French ditches although one was ultimately found. Most of the work was concentrated on the ditch of the first British fort which was thought to be a re-used segment of the original French defences. Unfortunately it proved impossible to excavate all levels in the trenches to test this hypothesis. The lowermost layer of ditch fill was found to consist of a layer of closely packed logs, well preserved by the high water table on the island. These timbers were a formidable barrier within the limits of the test trenches and in only one excavation was a portion of this layer successfully removed.

The paucity of undisturbed French remains and the difficulty of complete excavation of the first British ditch resulted in a specimen sample which is smaller than desired. Nevertheless it is possible to identify and date most of the excavated features.

In all, six separate excavation operations were dug in this phase of the 1966 archaeological work, including one excavation of the previous season. Some excavations carried out during 1967 are also pertinent to the problem of the French fort on Ile-aux-Noix. All of these have been described and discussed in detail in this report.

In general, the uppermost layer in the ditch stratigraphy was the sod layer. Beneath this was a layer of topsoil and refuse, sometimes lenses of trash deposited to fill holes and other zones of refuse-laden soil stratigraphically above the elevation where the ditch line could be identified. Such units can be combined into three major stratigraphic members, the sod layer, the topsoil zone and fill levels above the ditch line. Within the ditch limits one or more stratigraphic units could be distinguished. These included deposits above a layer of rock in one major excavation. The uppermost levels of the ditch fill can be termed late ditch fill and probably represent a post-Lennox construction period of deposition. Such deposits were probably made to fill surface depressions which developed as the ditch fill settled. Below the later ditch fill, the fill material could be divided into two sub-units in most cases. The uppermost was refuse-charged mixed soil and the lower level was the compact zone of closely packed logs already mentioned. Beneath the logs, where they were removed, a grey natural clay layer formed the bottom of the ditch, within which were found fascines and timber structures. In one operation a small segment of an original French fortification ditch which had been filled was also located. This was the earliest feature identified during the season's work.

The timber structure found within the ditch bottom zone has been described in detail and is too complex to fully elaborate here. It included fascine bundles of birch held in place at the sides of the ditch by means of stakes driven into the clay. The wooden structures embedded in the clay included horizontal logs placed on levelers and both large and small posts placed at angles. At intervals of about 15 feet, large posts slanting towards the south (towards the rampart scarp) were found. Drilled holes were present in one of these large timbers. These slanting posts were presumably for the purpose of stabilizing or revetting the rampart side of the ditch. One historical plan includes a profile of the ditch and shows these large timbers supporting fraising which protruded into the ditch. A row of stakes or smaller posts was found in the centre of the ditch and these may be part of the central picket posts shown in the historical profile. Only the bottoms of the vertical posts remain, the upper portion having been chopped off, thus it is not possible to verify the superstructure shown in the historical plan.

On the outer (north) side of the ditch a banquette step was found cut into the clay. In one area near the shoulder angle of the British ditch, the counterscarp was found to be revetted with a sod block wall rather than with the timbers shown on the 1786 plan. Beyond the ditch to the north an area barren of archaeological features has been interpreted as the locus of the glacis.

The timbers found in the lower level of ditch fill were probably parts of the log revetment and other timber structures seen in the 1786 plan and whose chopped-off bases were found *in situ* on the bottom of the ditch. This relationship would indicate that the log fill layer must date to the 1819-28 Fort Lennox construction period, while the clay ditch bottom layer could date between 1759 and 1819, assuming the British re-used the old French work. Archaeological dating of these layers confirms this hypothesis, as has been discussed in the analysis of the ceramics recovered from these layers.

The major question is that of the origin of the timber portions of the fortification. Were these structures part of the French fort which had survived the 15-year hiatus in occupation, or were they British improvements erected in the old French excavation? Only an inconclusive answer to this question can be given with the data at hand.

The French made use of fascines in their fortifications (Lambart 1963: 3) and fascines were found in the excavations as part of the ditch structure. In one fascine bundle a sherd of French coarse earthenware was found. This was the only specimen recovered from a context directly associated with the structural elements found in the ditch. At best it dates the fascine to the French period. It cannot date the timber work. The sherd could, of course, have been included in the fascine by a British soldier if such a pottery fragment had been on the surface when the fascine was made. A French origin seems more likely, however.

The timber work remains undatable by archaeological evidence since it was embedded in the clay bottom of the ditch and both French and British sherds were present in that layer. None was associated with the timber directly, for example in a post hole. However, it should be noted that these timber structures were left preserved in situ for possible future development or interpretation; no associated sherds could have been recovered.

It does not seem likely that the timbers could have survived the 15-year gap between French and British occupation, at least in good enough condition to serve as part of the fortification. That supposition, coupled with the depiction of the timbers on the British plan of 1786, leads to the tentative conclusion that the timber work within the ditch is most likely of British construction while the ditch excavation and fascines represent the original French period. This hypothesis is tenuous, and only more extensive archaeological work can resolve the question.

In a different operation on the west side of the island a short section of an original French ditch was exposed. It had been filled but contained only French sherds, at least in the small area excavated. The location of this French ditch corresponds to a location determined by map correlation and helps to identify the 1780 Reidesel plan as probably the most accurate representation of the French fortification. This ditch must have been filled by the British either in 1761 or when the redoubt was built.

The correlation of surface depressions and map projections based upon the 1780 plan has been discussed. The tentative identification of wooden features exposed in the area of the north ravelin of Fort Lennox as old French features is also based on this map correlation. It is suggested here that further archaeological work in these areas would reveal some substantial remnants of the original French fort on Ile-aux-Noix.

The chronological analysis of the ceramics and other artifacts recovered in these excavations has been discussed at length.

The main objective of the field season was to attempt to locate parts of the original French fort on Ile-aux-Noix. The basic conclusions concerning the excavations conducted in this effort may be summarized briefly.

1) The British re-used part of the French fort in their first fort. The ditch of the north side of the British fort was located and excavated. It contained evidence of both French and British occupation in its bottom deposits. Fascines installed by the French were found. Timber revetments and other structures were found in the ditch as well; these could have been built by the French but were more likely British work.
2) The ditch of the British fort was filled with refuse in 1819-28 when Fort Lennox was constructed. Filling of the former ditch line continued as the soil settled. Ceramic and specimen analysis permits the approximate dating of these deposits.
3) The salient of the British redoubt No. 2 on the western side of the island probably made use of the

older French salient in that area. A portion of the original French perimeter ditch was located and excavated adjacent to the redoubt ditch. Its location corresponds to that predicted by correlation of the 1780 map showing the French lines.

4) No architectural evidence of the French St. Antoine and St. Louis redoubts has been located. The St. Louis redoubt may have been at the same location as the British redoubt No. 3 which was leveled by the naval yard. St. Antoine was probably farther south than the area tested in search of this redoubt. Areas excavated in search of both French redoubts proved to be the sites of later structures.
5) None of the excavations in the northern area of the island yielded evidence of the French blockhouse, and no good surface evidence was found. Swampy conditions and a modern campground prevented work in the northeast sector.
6) Map correlations with archaeological features indicate that the 1780 plan is probably the most accurate representation of the French fortification. Correlating that plan with modern and archaeological features leads to the hypothesis that unidentified timbers exposed in 1967 (Korvemaker 1968) in the north ravelin area are part of the original French fort. Similarly, logs exposed in those salvage operations inside Fort Lennox may also be old French features.
7) Study of the surface depressions around Fort Lennox permit the identification of as yet unexcavated surface features with the first British fort, the British redoubt No. 1 and possibly with French

features, assuming the 1780 map correlation is valid.

Thus the 1966 field season met its primary objective, at least in part, by locating and excavating some evidence of the original French fort. On the basis of the 1966 work and these conclusions, further work could be undertaken at Ile-aux-Noix with a reasonable expectation of finding more substantial evidence of the original French fort than was actually exposed in 1966.

The 1966 field season aimed at the discovery of some French remnants. Some were found as has been described above. Unfortunately the length of time required to find positive evidence of these features allowed only a small portion to be excavated; in addition, the evidence supporting the identifications is tenuous.

The chronological analysis of the site confirmed many of the interpretive hypotheses based on the identification of the features exposed in the excavations. The analysis made extensive use of the ceramic formula date method, partly as a test of a potential application of that method. Although the samples from these features contain mixed artifacts from more than a single occupation, the results are sufficiently well correlated with historical data to suggest that less mixed features could well be analysed effectively by the method outlined here.

TABLES

Table 2. Stratigraphic Units and Excavation Lots in the Ditch on the North Face of the First British Fort, near the Northeast Salient

Sequence of Major Stratigraphic Units		Excavation Lots	
Sod Level		5G44A2, 5G44A3, 5G44F1	
Topsoil Above the Ditch Line		5G44B6, 5G44D7, 5G44D13, 5G44F2	
Late Fill Deposit	Fill above Rocks	5G44B5, 5G44F3,	5G44D3, 5G44D8
		5G44D11	5G44D4, 5G44D9
	Rock Layer	5G44F5	
Early Fill Deposit	Below Rocks and Above Logs	5G44F4	5G44D1, 5G44D5, 5G44D10
			5G44D2, 5G44D6, 5G44D12
	Log Layer	5G44D14, 5G44D16, 5G44F6	
Original Structure	Fascines in Clay	5G44F8, 5G44F9	
	Clay Layer Original Ditch Bottom	5G44D15, 5G44D17, 5G44F7	

Table 3. Stratigraphic sequence of lots in the area of the glacis, north face of the first British fort

Major Stratigraphic Unit (In sequence)	Excavation Lots
Sod	5G44A1
Topsoil and Refuse zone	5G44B1 5G44B3 5B44B7 5G44B8
Charcoal Lens	5G44B10
Undisturbed Subsoil	Tested in area of 5G44B1, 5G44B3

Table 4. Stratigraphic Units and Excavation Lots in the north face of the first British fort, Northwest Shoulder

Sequence of Major Stratigraphic Units	Excavation Lots
Sod	5G48A1 to 5G48A6
Topsoil	5F48B1, 5G48D1, 5G48F1
Dark Soil Layer	5G48B2, 5G48C1
Fill Above Ditch Line	5G48B7, 5G48E1, 5G48F2
Lens Intrusive Into Ditch Fill	5G48D2
Upper Ditch Fill	5G48B3, 5G48C2
Ditch Fill Above Log and Clay Levels	5G48B4, 5G48B5, 5G48B6 5G48B8, 5G48B9 5G48C3 5G48D3 5G48F2

Table 5. Stratigraphic Units and Excavation Lots in the West Salient of the First British Fort

	Sequence of Major Stratigraphic Units	Excavation Lots	
	Sod Layer	5G57A1	
	Intrusive Lens	5G57B1	
	Soil Above Ditch Line	5G57B2	
Ditch Fill Above Logs	Upper Ditch Fill	5G57B3	
	Lower Ditch Fill Including Part of Log Level	5G57B4	Lower Ditch Fill
	Lower Ditch Fill Adjacent to Logs	5G57B5	
	Log Level	Unexcavated	

Table 6. Chronological Sequence of Stratigraphic Units and Excavation Lots in Redoubt No. 2

Sequence of Major Stratigraphic Units	Excavation Lots
Sod Level	5G49A1, 5G49B1, 5G49C1, 5G49D1
Ditch Fill Deposits south of masonry wall	5G49A2, 5G49A3, 5G49A4, 5G49A5
Fill Layers above masonry wall	5G49B2, 5G49B3
Fill layers north of masonry wall Redoubt occupation?	5G49D2, 5G49D3
Log fill level in ditch south of masonry wall	5G49A6 5G49B4
Clay Layer	5G49A8
Fill of old French Ditch	5G49A7 5G49C2

Table 7. Summary of Ceramics

Ceramic Types	East Flank	East Flank, Northeast	North Face, Northeast Salient					Glacis			North Face, Northwest Salient			
			Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Unglazed coarse earthenware										4			5	1
Brown/olive coarse earthenware					3	4		3	1	4		4	3	12
Plain glazed coarse earthenware				4	1					4			3	1
Plain slipware				1	6									1
Trailed slipware	1					2							9	23
Combed slipware														1
Spanish olive jar														
Plain white delftware				1	2									
Decorated delftware						1								

Ceramic Types			North Face, Northeast Salient						Glacis		North Face, Northwest Salient			
	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
"Clouded" cream-bodied earthenware												2	2	
Yellow glazed cream-ware earthenware										1				
Green glazed cream-ware earthenware														
Creamware		5	1	9	36	18	4	1		26	26	61	25	47
Undecorated pearlware		2	1	4	41	5				1	8	2	10	7
Green shell-edge pearlware		1	1	7	19	2		1		1		5	13	21
Blue shell-edge pearlware				1		1				1		1	5	5
Red shell-edge refined white earthenware														2

Ceramic Types			North Face, Northeast Salient						Glacis		North Face, Northwest Salient			
	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Moulded embossed refined white earthenware		1			3						3	2	2	4
Blue banded refined white earthenware		1	1		1									
Undecorated refined white earthenware blue tint		2		4	30							3	1	7
Refined white earthenware		30	1	14	103	31				16	35	85	315	154
Willow pattern				1	2	1						6	3	1
Blue transfer-printed white earthenware	1	2	1	3	11	7	1				5	22	44	43
Light blue transfer-printed white earthenware			2	1	5	4						9	9	14

Ceramic Types			North Face, Northeast Salient						Glacis		North Face, Northwest Salient			
	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Miscellaneous coloured transfer-printed white earthenware		2	1	1	12	4				1	3	9	12	24
Sponge decorated													2	1
Flowing blue printed												2	2	1
Blue hand-painted white earthenware					9	1				2		16	4	5
Polychrome painted white earthenware			1	5	15	3	4			2		20	31	21
Turner (?) ironstone														
Blue printed ironstone												1		
Black printed ironstone														2

			North Face, Northeast Salient							Glacis		North Face, Northwest Salient		
Ceramic Types	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Brown printed ironstone					1									
Dunn, Bennett & Co. ironstone														
Stone Chinaware Co. St. Johns P.Q.														
White ironstone														
Banded yellow ware		1		2	8					1		5	29	14
Annular decorated			3	2	33	7				4		6	15	6
Mocha ware					5								3	
Unidentified brown glazed earthenware													3	
Glazed earthenware														2
Cyples ware ?												1		3

Ceramic Types				North Face, Northeast Salient					Glacis		North Face, Northwest Salient			
	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Unidentified burned earthenware				1	8	2						5	6	18
French stoneware													1	
Westerwald stoneware														
Brown stoneware 19th-century														
White salt-glazed stoneware, plain		1			1									
White salt-glazed stoneware, moulded														
White salt-glazed stoneware, plates					1	1							1	
Brown stoneware bottles, 19th-century	1			1	1	3					1	6	17	8

Ceramic Types			North Face, Northeast Salient						Glacis		North Face, Northwest Salient			
	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Brown stoneware containers, 19th-century			1	1	4	2						13	50	44
Miscellaneous stoneware containers, 19th-century					3							6	3	5
Farrar (?) stoneware												2	6	6
Albany slip stoneware					1							3	2	6

Ceramic Types	North Face, Northwest				Redoubt No. 2							West Salient				
	Fill Above Ditch	Lens	Upper Ditch Fill	Lower Ditch Fill	Sod	Fill South of Masonry	Fill Above Masonry	Fill North of Masonry	Log Level	Clay Level	Old French Ditch	Sod	Lens	Topsoil Above Ditch	Upper Ditch Fill	Lower Ditch Fill
Unglazed earthenware		4		3												
Brown/olive coarse earthenware		5	1	4							6		1			3
Plain glazed coarse earthenware				2												
Plain slipware				1												
Trailed slipware		3	1	1	1											
Combed slipware				1												
Spanish olive jar				1												
Plain white delftware																
Decorated delftware																
"Clouded" cream earthenware			1	2												
Yellow glaze cream-ware earthenware																

Ceramic Types	North Face, Northwest				Redoubt No. 2							West Salient				
	Fill Above Ditch	Lens	Upper Ditch Fill	Lower Ditch Fill	Sod	Fill South of Masonry	Fill Above Masonry	Fill North of Masonry	Log Level	Clay Level	Old French Ditch	Sod	Lens	Topsoil above Ditch	Upper Ditch Fill	Lower Ditch Fill
Green glazed cream-ware earthenware																
Creamware		2	11	36	4	6		7	6			1	13		12	9
Undecorated pearlware		2	5	13		3	1		1					1		1
Green shell-edge pearlware	1	4		7					3							1
Blue shell-edge pearlware				3					7							
Red shell-edge refined white earthenware																
Moulded embossed refined white earthenware		1	1	1												
Blue banded refined white earthenware																

Ceramic Types	North Face, Northwest				Redoubt No. 2								West Salient			
	Fill Above Ditch	Lens	Upper Ditch Fill	Lower Ditch Fill	Sod	Fill South of Masonry	Fill Above Masonry	Fill North of Masonry	Log Level	Clay Level	Old French Ditch	Sod	Lens	Topsoil Above Ditch	Upper Ditch Fill	Lower Ditch Fill
Undecorated refined white earthenware blue tint		2	7	1					2				1			
Refined white earthenware	10	59	30	21	5		46		10	1						2
Willow pattern		7		2										1		
Blue transfer-printed white earthenware		14	8	4	2	1			2	1			7	9	1	
Light blue transfer print		8	26			1							1			
Miscellaneous colour transfer print	2	8	2	2									1	1		
Sponge decorated			2	1									1			
Flowing blue printed													1	1		
Blue hand-painted white earthenware			2	10												
Polychrome painted white earthenware		20	1	9					3						1	1

Ceramic Types	North Face, Northwest				Redoubt No. 2							West Salient				
	Fill Above Ditch	Lens	Upper Ditch Fill	Lower Ditch Fill	Sod	Fill South of Masonry	Fill Above Masonry	Fill North of Masonry	Log Level	Clay Level	Old French Ditch	Sod	Lens	Topsoil Above Ditch	Upper Ditch Fill	Lower Ditch Fill
Turner (?) ironstone																1
Blue printed ironstone																
Black printed ironstone																
Brown printed ironstone																
Dunn, Bennett & Co. ironstone														84		
Stone chinaware Co., St. Johns P.Q.																6
White ironstone		2	19	4								3	1	122	2	5
Banded yellow ware		2	1						1							
Mocha ware																
Unidentified brown glazed earthenware																
Glazed earthenware				1												
Cyples ware																

Ceramic Types	North Face, Northwest					Redoubt No. 2						West Salient				
	Fill Above Ditch	Lens	Upper Ditch Fill	Lower Ditch Fill	Sod	Fill South of Masonry	Fill Above Masonry	Fill North of Masonry	Log Level	Clay Level	Old French Ditch	Sod	Lens	Topsoil Above Ditch	Upper Ditch Fill	Lower Ditch Fill
Unidentified burned earthenware		3	4	4	1		1					2	1	2		
French stoneware																
Westerwald stoneware						1										
Brown stoneware 18th-century			1	1	2											
White salt-glazed stoneware, moulded				1												
White salt-glazed stoneware, plates																
Brown stoneware bottles, 19th-century		2		3								1	4			
Brown stoneware containers, 19th-century		2	41	9	2											

Ceramic Types	North Face, Northwest					Redoubt No. 2						West Salient				
	Fill Above Ditch	Lens	Upper Ditch Fill	Lower Ditch Fill	Sod	Fill South of Masonry	Fill Above Masonry	Fill North of Masonry	Log Level	Clay Level	Old French Ditch	Sod	Lens	Topsoil Above Ditch	Upper Ditch Fill	Lower Ditch Fill
Miscellaneous stoneware containers, 19th-century			2	2	1											
Farrar (?) stoneware		11														
Albany slip stoneware																
Unidentified stoneware												3		14		
European hard paste porcelain					1				1					3	2	
Utilitarian semi-porcelain		1		1	2											
European bone china				1											1	1
Chinese export blue and white porcelain		1	1	2			3								1	
Chinese export poly-chrome porcelain												1				
Chinese export brown glazed porcelain																

Ceramic Types			North Face, Northeast						Glacis		North Face, Northwest			
	East Flank	East Flank, Northeast	Sod	Soil Above Ditch	Ditch Fill Above Rocks	Ditch Fill Below Rocks	Log Level	Clay Bottom Layer	Fascines	Sod	Topsoil	Sod	Topsoil	Dark Soil
Unidentified stoneware		1		1	1	1							1	
Utilitarian semi-porcelain				2	5							18	12	27
European hard paste porcelain										1	1	2	3	
European bone china ?				1	2							2	1	1
Chinese export porcelain, blue & white						1	1							1
Chinese export porcelain, polychrome						1						7	1	
Chinese export porcelain, brown glazed														1

Table 8. Ceramic Estimate of Occupation Period

Stratigraphic Unit	Pottery Type	Date	Period
East flank	19th-century brown stoneware bottles	1820	III
East flank, northeast salient	Refined white earthenware	1820	III
North face, northeast salient:			
Sod	19th-century brown stoneware bottle	1820	III
Soil above ditch	19th-century brown stoneware bottle	1820	III
Fill above rocks	Refined white earthenware	1820	III
Rock layer	- -	-	-
Fill below rocks and above logs	Refined white earthenware	1820	III
Log layer	Ironstone	1813	III
Clay layer	Blue shell-edged pearlware	1780	II
Fascines	Brown/olive French coarse earthenware	18th-century	I
Glacis:			
Sod	Refined white earthenware	1820	III
Topsoil	Refined white earthenware	1820	III

Stratigraphic Unit	Pottery Type	Date	Period
Northwest shoulder:			
Sod	19th-century brown stoneware bottle	1820	III
Topsoil	Farrar stoneware (?)	1852	
	refined white earthenware	1820	III
Dark soil layer	Farrar stoneware (?)	1852	
	refined white earthenware	1820	III
Fill above ditch	Refined white earthenware	1820	III
Intrusive lens	Refined white earthenware	1820	III
Upper ditch fill	Refined white earthenware	1820	III
Ditch fill above logs	Refined white earthenware	1820	III
West salient:			
Sod	Ironstone	1813	III
Intrusive lens	19th-century brown stoneware bottle	1820	III
Soil above ditch	Dunn, Bennett & Co. ironstone	1875 1891	IV
Upper ditch fill	Ironstone	1813	III
Lower ditch fill above logs	Stoneware China Co., St. Johns P.Q.	1873	IV

Stratigraphic Unit	Pottery Type	Date	Period
Redoubt No. 2			
Sod	Refined white earthenware	1820	III
Fill above masonry wall	Refined white earthenware	1820	III
Ditch fill south of masonry wall	Light blue transfer-printed refined white earthenware	1820	III
Log level south of masonry wall	Refined white earthenware	1820	III
Clay layer below logs	Refined white earthenware	1820	III
Fill layers, north of (behind) masonry wall	Creamware	1762	II
Fill of oldest ditch (French)	Brown/olive French coarse earthenware	18th-century	I

Table 9. Bore Diameters of Plain Stem Fragments

	4/64-inch	5/64-inch	6/64-inch	Binford Formula Date	Harrison Bracket
East flank	1	1		1759.7	1710-1800
East flank northeast	3	3		1759.7	1710-1800
North face, northeast					
Sod		1		1740.5	1710-1750
Soil above ditch		1	1	1721.4	1680-1750
Ditch fill above rock	6	22	4	1742.9	1710-1750
Ditch fill	7	5		1762.9	1710-1800
Log fill				---	---
Clay layer	1			1778.8	1750-1800
North face, northwest					
Sod	12	55	4	1744.9	1710-1750
Topsoil	34	95	14	1745.9	1710-1750
Dark soil	25	95	1	1748.1	1710-1750
Fill above ditch		3		1740.5	1710-1750
Lens	29	65	7	1748.9	1710-1750
Upper ditch fill	12	10	2	1756.5	1710-1750
Ditch fill	10	13		1757.2	1710-1800
West salient					
Sod					
Lens					
Soil above ditch		2		1740.5	1710-1750
Upper ditch fill	1	3		1750.1	1710-1750
Lower ditch fill		2		1740.5	1710-1750

	4/64-inch	5/64-inch	6/64-inch	Binford Formula Date	Harrison Bracket
Redoubt No. 2					
Sod		3		1740.5	1710-1750
Ditch fill south of masonry wall	1	2			1710-1750
Log fill south of masonry wall		1		1740.5	1710-1750
Clay layer below logs					
Fill above wall	1			1778.8	1750-1800
Fill north of wall		1		1740.5	1710-1750
Old French ditch					
Sod glacis	3	3	1	1751.5	1710-1800
Topsoil	1	1		1759.7	1710-1800

Table 10. Mouthpieces

	Original Unglazed Flanged	Original Unglazed	Original Glazed	Glazed Stem Fragments	Secondary Mouthpiece
East flank					
East flank, northeast			1		
North face, northeast					
Sod					
Soil above ditch					
Upper ditch	2	1			4
Ditch fill					1
Log fill					
Clay layer					
North face, northwest					
Sod			2	3	2
Topsoil		2	2		
Dark soil		2	3	3	5
Fill above ditch					
Lens		3		1	1
Upper ditch fill				1	
Ditch fill					
West salient					
Sod					
Lens					1
Soil above ditch					
Upper ditch					
Lower ditch					

	Orginal Unglazed Flanged	Original Unglazed	Orgianl Glazed	Glazed Stem Fragments	Secondary Mouthpiece
Redoubt No. 2					
Sod				1	
Ditch fill south of masonry wall		1			
Log fill south of masonry wall					
Clay layer below logs					
Fill above wall					1
Fill north of wall					
Old French ditch					

Table 11. Marked Stem Fragments

	A. Coghill Glasgow	Henderson Montreal	McDougall Glasgow Scotland	W & D Bell Quebec	Linear Decoration
North face, northeast					
Sod					
Soil above ditch		2			
Ditch fill above rock		1			1
Ditch fill		1			
Log fill					
Clay layer					
North face, northwest					
Sod	4	5			
Topsoil	9	3			
Dark soil	17	6		1	1
Fill above ditch	1				
Lens	4				
Upper ditch fill	1				
Lower ditch fill					
West salient					
Sod					
Lens					
Soil above ditch			2		
Upper ditch					
Lower ditch					
Glacis					
Sod				1	
Topsoil				1	
TOTAL	36	18	2	3	
%	61	30.5	3.4	5.1	

Table 12. Pipe Bowl Fragments

	Plain Bowl Fragments	Stem-Bowl Fragments with Oval-Sectioned Spurs	Conical Spur	Illegible Letters on Spur	Moulded "2" on Spur	Spur Scars
North face, northeast						
Sod						
Soil above ditch	3					
Upper ditch fill	14		1	1		
Ditch fill	1					
Log fill						
Clay layer						
North face, northwest						
Sod	26	10				3
Topsoil	57	5				3
Dark soil	32	8				1
Fill above ditch						1
Lens	32	8				4
Upper ditch fill	5			1	1	1
Ditch fill	1	1				1
West salient						
Sod	1					
Lens						
Soil above ditch	1					
Upper ditch fill						
Lower ditch fill						
Glacis sod						
Glacis topsoil	1					

Table 13. Pipe Bowls

	Type 11b	Type 12a	Keeled	Moulded Decoration	Fluted	Impressed Decoration	Moulded Effigy	Impressed Henderson[1]	Moulded GG	TD Impressed Letters Alone	TD Impressed in Wreath Inc. on Spur	TD Impressed Sharp TD on Spur	TD Spur Fragments	TD Moulded in Double Dot Circle
East flank														
East flank, northeast														
Sod														
Soil above ditch			1											
Upper ditch fill	2		2	4		1		1			2			
Ditch fill														
Log fill														
Clay														
North face, northwest														
Sod	1	1	1	3	3				1	2	4			3
Topsoil	10			1	2		1			3	8			3
Dark soil	2			2	5					1	6			5
Fill above ditch														
Lens	2	1			1						7			6
Upper ditch fill					1		1				1			
Ditch fill	2	1			2						1			

	Type 11b	Type 12a	Keeled	Moulded Decoration	Fluted	Impressed Decoration	Moulded Effigy	Impressed Henderson	Moulded GG	TD Impressed Letters Alone	TD Impressed in Wreath Inc on Spur	TD Impressed Sharp TD on Spur	TD Spur Fragments	TD Moulded in Double Dot Circle
West salient														
Sod														
Lens														
Soil above ditch														
Upper ditch							1			1				1
Lower ditch														
Redoubt No. 2														
Sod				1									1	
Ditch fill south of masonry wall														
Log fill south of masonry wall														
Clay layer below logs														
Fill above wall													2	
Fill north of wall														
Old French ditch														
Glacis														
Sod				1										
Topsoil						1								

Table 14. Chronological Summary Based on Pipe Data

	Marked Stems				Bowls										
Excavation Unit	A.Coghill 1826-1904	Henderson 1847-76	McDougall 1846-1967 (1891)	W & D Bell 1862-77	Type 11b 1790-1840	Type 12b 1820-70	Keeled 1820-70	Moulded Decoration 1770-1800	Moulded Fluted 1720-1820	Moulded Effigy 1800-1900	Henderson 1847-76	G.G. 1820-70?	TD Type 12a 1820-70	T.P.Q. and Period Estimate Based on pipe Manufacture	Site Period
East flank														-	
East flank, northeast											X			1847-1876	III
North face, northeast															
Sod														-	-
Soil above ditch		X					X							1847-1870	III
Upper ditch		X			X		X	X			X		X	1847-1870	III
Ditch fill		X											X	1847-1870	III
Log fill														-	
Clay														-	
North face, northwest															
Sod	X	X			X	X	X	X	X			X	X	1847-1870	III
Topsoil	X	X			X			X	X	X			X	1847-1900	III
Dark soil	X	X		X	X			X	X				X	1862-1870	III
Above ditch	X													1826-1904	III
Lens	X				X	X			X				X	1826-1904	III
Upper ditch	X								X				X	1826-1904	III
Lower ditch					X	X			X				X	1820-1870	III

Excavation Unit	Marked Stems				Bowls									T.P.Q. and Period Estimate Based on pipe manufacture	Site Period
	A.Coghill 1826-1904	Henderson 1847-76	McDougall 1846-1967 (1891)	W & D Bell 1862-77	Type 11b 1790-1840	Type 12b 1820-70	Keeled 1820-70	Moulded Decoration 1770-1800	Moulded Fluted 1720-1820	Moulded Effigy 1800-1900	Henderson 1847-76	G.G. 1820-70?	TD Type 12a 1820-70		
West salient															
Sod														-	
Lens														-	-
Above ditch			X							X			X	1846(1891)-1967	IV
Upper ditch														-	-
Lower ditch														-	-
Redoubt No. 2															
Sod													X	1820-1870	III
Ditch fill south														-	-
Log fill south														-	-
Clay south														-	-
Fill above wall													X	1820-1870	III
Fill north of wall														-	-
Old French ditch														-	-

Table 15. Makers Marked Specimens

	Number	Percentage of total
Stems		
A. Coghill, Glasgow	36	29.0
Henderson, Montreal	18	14.5
McDougall, Glasgow	4	3.2
W. & D. Bell, Quebec	3	2.4
Bowls/Spur		
/W.G.	1	0.8
/I. ?	1	0.8
Henderson/	2	1.6
G.G./	1	0.8
TD/	6	4.8
TD/T.D. ?	1	0.8
TD/W.G.	2	1.6
TD/	27	21.8
TD/T.D.	1	0.8
? /T.D.	3	2.4
TD*/	18	14.5
	124	

* Moulded

Table 16. Modern Glass

	Number
North face, northeast	
Sod	1
Soil above ditch	7
Upper fill	
Ditch fill	
Log fill	
Clay	
North face, northwest	
Sod	15
Topsoil	20
Dark soil	11
Fill above ditch	2
Lens	5
Upper ditch	3
Ditch fill	
West salient	
Sod	
Lens	
Soil above ditch	34
Upper ditch	
Ditch fill	

Table 17. Summary of Distribution of Bottle Glass Sherds by Colour and Stratigraphy

Stratigraphic Position	YR	Y	GY	G	BG	B	PB	Clear	Burned	Total
All sod levels										
Number		98	28	7	6			6		145
Percentage		67.6	19.3	4.3	4.1			4.1		
All levels above ditch line										
Number	9	298	73	27	14	13	8	28		470
Percentage	1.9	63.4	15.5	5.7	3.0	2.8	1.7	6.0		
All ditch fill levels										
Number	4	175	40	3	2	1		5	2	232
Percentage	1.7	75.4	17.2	1.3	0.9	0.4		2.2	0.9	
Ditch bottom										
Number		10	2							12
Percentage		83.4	16.7							

Table 18. Summary of Bottle Finishes and Bases

Stratigraphic Unit	Irregular Finishes	Regular Finishes	Irregular Bases	Regular Bases	Square Bases	Octagonal Bases	Wide Mouth Bottles	Champagne Bottles Finish and Base	Miscellaneous Finishes	Castor Oil Finish	Miscellaneous Bases	Pharmaceutical Bases	Pharmaceutical Rims	Moulded Body Sherds	Moulded Seal
East flank															
East flank, northeast												1			
North face, northeast															
Sod								1							
Soil above ditch			2		1			1				1			
Upper ditch fill	1	1	4	6			1								
Ditch fill	1		5				1								
Log fill	1		1					1							
Clay	2		2												
North face, northwest															
Sod	3	1	4		1	2	1	1				2			
Topsoil		2			1				1			1	1	1	1
Dark soil	3	2	10				1	4			1	3	1	1	
Fill above ditch															
Lens	1	1													
Upper ditch fill	1	1	3									2			
Ditch fill	5	1	4												

Stratigraphic Unit	Irregular Finishes	Regular Finishes	Irregular Bases	Regular Bases	Square Bases	Octagonal Bases	Wide Mouth Bottles	Champagne Bottles Finish and Base	Miscallaneous Finishes	Castor Oil Finish	Miscellaneous Bases	Pharmaceutical Bases	Pharmaceutical Rims	Moulded Body Sherds	Moulded Seal
West salient															
Sod					1										
Lens								1							
Soil above ditch	3				1				2	2	7			8	
Upper ditch															
Lower ditch		1													
Redoubt No. 2															
Sod		4											1		
Ditch south of wall															
Log fill south of wall															
Clay															
Fill above wall															
Fill north of wall															
Old ditch															
Glacis															
Sod	1	1													
Topsoil															
Lens															

Table 19. Date Estimates Based on Bottles

Excavation Unit	Date Ranges of Finish, Base Types, etc.	TPA	Site Period
East flank	-	-	-
East flank, northeast	-	-	-
North face, northeast			
Sod	-	-	-
Topsoil	-	-	-
Upper fill	1770-1820; 1814-1853	1814	III
Ditch fill	1770-1820	1770	II or III
Log fill	1770-1820	1770	II or III
Clay	1770-1820	1770	II or III
North face, northwest			
Sod	1770-1820; 1814-1853; 1870-1920	1870	III or IV
Topsoil	1814-1853; 1850-1897	1850	III
Dark soil	1770-1820; 1814-1853; 1870-1920	1870	III
Fill above ditch	-	-	
Lens	1770-1820; 1814-1853	1814	III
Upper ditch	1814-1853	1814	III
Lower ditch	1770-1820; 1814-1853	1814	III
West salient			
Sod	-	-	-
Lens	-	-	-
Soil above ditch	1814-1853; 1850-1897; 1870-1920; 1860-1913	1870	III or IV
Ditch fill	-		
Glacis			
Sod	-		
Lens	1850-1897	1850	III

Table 20. Buttons

Excavation Lot	Number of Specimens	Description	Diameter	Thickness
5G48C1-170	1	Iron wire eye	19.0	1.7
5G48C1-171	1	Iron wire eye	19.5	2.8
5G44B5-3	1	Iron concave, 4 holes	18.7	2.0
5G48B2-168	1	Iron concave, 4 holes	18.5	2.1
5G48B2-169	1	Iron concave, 4 holes; trace black paint	19.0	2.0
5G48B2-170	1	Iron concave, 4 holes	18.0	2.0
5G48B2-171	1	Iron concave, 4 holes	19.5	2.0
5G48C1-169	1	Iron concave, 4 holes	17.4	1.6
5G48C2-18	1	Iron concave, 4 holes	18.8	2.0
5G48D1-168	1	Iron concave, 4 holes	19.0	2.5
5G48D2-229	1	Iron concave, 4 holes	18.5	2.5
5G48D2-230	1	Iron concave, 4 holes	19.0	1.8
5G48D2-231	1	Iron concave, 4 holes	17.7	2.0
5G48A1-57	1	White metal, cast w/eye Plain	19.5	1.1
5G48B2-214	1	White metal, cast w/eye Plain	21.3	1.4
5G48B1-193	1	White metal, cast w/eye "15"	19.5	1.5
5G44F3-23	1	White metal, cast w/eye "31"	23.5	1.5
5G48A4-46	1	White metal, cast w/eye "43"	19.5	2.1
5G48D1-169	1	White metal, cast w/eye "53"	22.0	1.5
5G48D1-170	1	White metal, cast w/eye "60"	24.5	1.6
5G48C1-172	1	White metal, cast w/eye "65" "Nutting London"	19.8	1.5

Excavation Lot	Number of Specimens	Description	Diameter	Thickness
5G48C1-116	1	White metal, cast w/eye "Nutting London"	19.5	1.4
5G48C1-117	1	White metal, cast w/eye "Nutting London"	19.0	1.4
5G48C1-118	1	White metal, cast w/eye "Nutting London"	19.6	1.8
5G48B2-215	1	White metal, cast w/eye "Nutting London"	19.3	1.5
5G48D2-232	1	White metal, cast w/eye "Nutting London"	20.0	1.5
5G48D2-234	1	White metal, cast w/eye "Nutting London"	20.0	1.4
5G48D2-233	1	White metal, cast w/eye "Nutting London"		
		no mark	16.0	1.4
5G48C1-171	1	White metal, cast w/eye "65" (?)	20.0	-
5G48B1	1	Brass; three cannons	15.8	1.0
5G44D3-49	1	Brass; four holes.	14.2	1.1
5G48B3-78	1	Brass; plain.	24.0	1.1
5G44F3-22	1	Silver plated brass.	14.0	1.3
5G48C1-173	1	Silver plated brass; octagonal.	18.5	0.9
			12.5	
5G48B3-71	1	Bone; back of two-piece button.	19.8	1.8
5G49D2-7	1	Bone; back of two-piece button.	23.5	1.8
5G44D1-21	1	Bone; flat five holes.	18.4	3.2
5G48B2-210	1	Bone; flat five holes.	6.2	2.2

Excavation Lot	Number of Specimens	Description	Diameter	Thickness
5G48B2-211	1	Bone; flat "3" holes.	12.6	2.8
5G48B2-212	1	Bone; flat "3" holes.	12.3	2.3
5G48B2-213	1	Bone; flat one hole.	15.3	1.3
5G48A2-56	1	Bone; flat four holes.	16.5	2.6
5G48C3-20	1	Shell; brass back.	10.9	1.8
5G48D1-278	1	Shell; four holes.	10.0	1.1
5G48A4-47	1	Shell; four holes.	9.7	1.9
5G48D1-167	1	Shell; four holes, notched border.	9.8	1.5
5G48D2-237	1	Shell; four holes, notched border.	10.0	-
5G48A3-34	1	Glass; plain four holes.	9.9	2.5
5G48C1-110	1	Glass; moulded grooves, four holes.	11.4	2.7
5G48D2-238	1	Button mould; "71".	21.0	3.0

Table 21. Stratigraphic Distribution of Buttons

	Iron 4 holes	Iron eye	Later Type 65	Cast White Metal 60	53	43	31	15	Plain	3 cannon	Brass 4 holes	Plain W/eye	Silver plated	2-Piece back	Bone 5 holes	4 holes	3 holes	1 hole
North face, northeast																		
Sod																		
Soil above ditch																		
Ditch above rock	1						1				1		1					
Rocks																		
Fill below rocks																		
Logs																		
Clay																		
North face, northwest																		
Sod						1			1									
Topsoil	1			1	1		1			1								
Dark soil	5	2	6						1				1					
Fill above ditch																		
Lens	3		3															
Upper ditch fill	1											1						
Ditch fill																		
5G49																		
Sod																		
Ditch south of masonry																		
Fill above masonry																		
Fill north of masonry															1			
Log																		
Clay																		
Old French																		

	W/brass back and eye	Shell 4 holes	 4 holes (notched)	Glass	"71" mould	T.P.Q. date Estimate Based on Button and Unit data	Site Period
North face, northeast							
Sod							
Soil above ditch							
Ditch above rock						1800	II (?)
Rocks							
Fill below rocks							
Logs							
Clay							
North face, northwest							
Sod		1		1		1835	III
Topsoil		1	1			1830	III
Dark soil							
Fill above ditch				1		1800	III
Lens			2		1	1815	III
Upper ditch fill						1726	II
Ditch fill	1					1800	II, III
5G49							
Sod							
Ditch south of masonry							
Fill above masonry							
Fill north of masonry						1726	II
Log							
Clay							
Old French							

Table 22. Metal Insignia

Stratigraphic Unit	Belt Plate 15th Regiment	Badge, Point	Badge 65th Regiment	Badge Grenade	Badge Feline on Crown	Epaulet Leaf	Slotted Buckle	Frog	Buckle
North face, northeast									
Sod									
Soil above ditch									
Ditch fill	1							1	
Log fill									
Clay									
North face, northwest									
Sod	1					1			
Topsoil			1	1		2			
Dark soil						1			
Fill above ditch									
Lens						4			
Upper ditch fill									
Ditch fill					1	1			1
West salient									
Fill above ditch							1		

Table 23. Miscellaneous Artifacts

	Coins	Brass and Copper Objects	Buzzer and Miscellaneous Lead	Buckles	Gunflints	Forks, Spoons, Knives, Razors	Tools	Chain, Ring, Rope Thimble	Boot Heel Cleats	Iron Pot Fragments	Unidentified Iron Artifacts	Swords and Bayonettes	Shot and Shell	Modern Shell Casings	Building Hardware	Wire	Nuts, Bolts, Screw, Washers, Staples
East flank															2		
East flank, northeast		1			1				1				1		1		2
North face, northeast																	
Sod		2													2		
Soil above ditch (1836)	1		1	1				1	1						1		
Upper ditch	1	3		1		3		2	1	1	5		3		1	1	1
Logs																	
Clay																	
North face, northwest																	
Sod		2		1				1	2	1	5		1	1	3	1	
Topsoil		3		1	1	3	3		1	1	5	2	4		2	3	4
Dark soil		7		1	2	4	1	1	3	3	5				3		1
Fill above ditch										1							1
Lens		4		1		2	1				1					2	
Upper ditch			1	1			1			1	1		1			2	
Lower ditch		1		2						1	4	1	2				
West salient																	
Sod																	
Lens														4			
Fill above ditch			1	1		4	2				7			8	8		4
Upper ditch fill	1					1	1				2				1		
Lower ditch fill					1	1											
Redoubt No. 2																	
Sod			3								3				1		
Fill south of wall								1							1		
Logs south of wall																	
Clay south of wall															1		
Fill above wall																	
Fill north of wall										1	1				1		
Old French											3		1				
Glacis																	
Sod																3	
Topsoil						1											

	Iron Rods	Roofing Tin	Strap Iron	Perforated Strap Iron	Scrap Iron	Scrap Tin	Clay, Marble	Boot Leather	Cloth	Coal	Clay Pidgeon Fragments	Barrel Hoop	Aboriginal Celt	Leather Strap	Tin Box Fragments	Stone and Brick Fragments	Slag	Wood Pegs Stake Drill Chips
East flank																		
East flank, northeast	2																	1
North face, northeast				1														
Sod																		1
Soil above ditch (1836)	2		14	4	19	2									2			
Upper ditch	2		5		1						1		1		14	1		2
Logs																1		
Clay																1		11
North face, northwest																		
Sod			8	4	2	3			3						16			
Topsoil	2		10	3			1		1									
Dark soil	4		13	4	6	1		2	1					1				
Fill above ditch			4	2														
Lens														1				
Upper ditch			4	1														
Lower ditch fill			14		1							1						
West salient																		
Sod																		
Lens															39			
Fill above ditch	4		2	1						1	1				19			
Upper ditch fill			1															
Lower ditch fill				1														
Redoubt No. 2																		
Sod			2	2													1	
Fill south of wall			3												15			
Logs south of wall		15																
Clay south of wall																		
Fill above wall																		
Fill north of wall			5	2														
Old French																		
Glacis																		
Sod	1		1	2	3	2										1		
Topsoil			1	1														

Table 24. Projectiles and Shell Casings

Stratigraphic Unit	Number of Species	Description	Ball Diameter (in.)	Thick-ness (mm)	Diameter (mm)
18th-century specimens					
North face, northeast					
Sod	1	Solid iron shot			25.0
Fill above rock	2	Fragments, hollow iron shell	5	23	
Fill below rock	1	Solid iron shot			18.0
	1	Lead ball	3/4		18.8
East flank, northeast	1	Hollow iron shell	5	25	
North face, northwest					
Sod	1	Solid iron shot			24.0
Topsoil	1	Hollow iron shell	5-1/2	25	
	2	Fragments, hollow iron shell	4-1/2	22	
	1	Solid iron shot			19.0
Upper ditch fill	1	Fragment, hollow iron shell	4-1/2	18	
Lower ditch fill	1	Fragment, hollow iron shell	4		
Redoubt No. 2					
Old French	1	Solid iron shot			25.0

Stratigraphic Unit	Number of Species	Description	Diameter (mm)
Modern specimens			
North face, northwest			
Sod	1	.45 cal. shell case, brass, "DOMINION 45 COLT".	
West salient			
Lens	1	Brass cartridge base, shotgun shell. UMC Co. No. 10, New Club.	20
Lens	3	Brass cartridge base, shotgun shell. Robin Hood No. 12.	20
Lens	1	Brass cartridge base, shotgun shell. 190 No. 12 Repeater.	20
Fill above ditch	2	Brass cartridge base, shotgun shell. UMC Co., No. 10, Nitro Club. UMC Co. No. 10, Black Club.	22
Fill above ditch	2	Brass cartridge base, shotgun shell. UMC Co. No. 10, New Club.	20
Fill above ditch	2	Brass cartridge base, shotgun shell. DC Co. No. 10 Trap.	21
Fill above ditch	1	Brass cartridge base, shotgun shell. EB on DC 16.	18
Fill above ditch	1	Brass cartridge base, shotgun shell. P.C. Co. No. 10 Trap.	22

Table 25. Spikes

Stratigraphic Unit	2 in.	3 in.	4 in.	5 in.	6 in.	7 in.	Fragments	10 in.	12 in.
5G44 Glacis									
Sod		1	7	4	1	1			
Topsoil					1				
Lens									
5G44 North-northeast									
Sod							1		
Soil above ditch			2	1	1				
Fill above rocks		1	3	3			2		
Rocks layer									
Fill below rocks			1	1					
Log layer							1		
Fascines									
Clay									
5G45			1	1			1		
5G57									
Sod									
Lens									
Soil above ditch		1	11	4	3		1	1	1
Upper ditch fill			1		1				
Lower ditch fill									
5G48									
Sod			2	2	5	1	4		
Topsoil		2	1	2	1		2		
Dark soil		1	1	1	3		5		
Fill above ditch		2	6		2				
Lens				1	1				
Upper ditch			1	1			2	1	
Ditch fill above logs			13	5	2	1	9		
5G49									
Sod		2	5	1	1	1	2		
Ditch south of masonry	1	3	4						
Fill above masonry			1	1			1		
Fill north of masonry			1						
Logs south of masonry			2						
Clay									
Old French									

Table 26. Wire Nails and Rectangular-Sectioned Nails

Stratigraphic Unit	3d 1-1/4 in.	1-1/2 in.	2 in.	2-1/2 in.	3 in.	3-1/4 in.	3-1/2 in.	4 in.	4-1/2 in.	5 in.	5-1/2 in.	6 in.	6-1/2 in.	Frag-ments	Modern Wire Nails
5G44 Glacis															
Sod				1											
Topsoil															1
Lens															
5G44 North-northeast															
Sod															
Soil above ditch															1
Fill above rocks								1				2			1
Rocks layer															
Fill below rocks															
Logs layer															
Fascines															
Clay															
5G45				1		1		3							30
5G57															
Sod														3	1
Lens															
Soil above ditch	2		4	13	10		4	15	5	3		5		39	12
Upper ditch fill															
Lower ditch fill															
5G48															
Sod				1	2	1			1						4
Topsoil			3	1	7	1	1		4			2	17		3
Dark soil			1		1		1	1	1				3		5
Fill above ditch													1		
Lens															
Upper ditch															
Ditch fill above log															
5G49															
Sod															
Ditch south of masonry						1	1								
Fill above masonry															
Fill north of masonry															
Logs south of masonry															
Clay															
Old French				1										1	

Table 27. Square-Sectioned Nails

							Square Nails									
Stratigraphic Unit	3d 1-1/2 in.	4d 1-1/2 in.	6d 2 in.	8d 2-1/2 in.	10d 3 in.	12d 3-1/4 in.	16d 3-1/2 in.	20d 4 in.	30d 4-1/2 in.	40d 5 in.	50d 5-1/2 in.	60d 6 in.	6-1/2 in.	7 in.	7-1/2 in.	Unidentified Fragments
5G44 Glacis																
Sod	1	4	3	13	3	4	3	2	3							3
Topsoil		2	3	2	1	1	1			2						
Lens																
5G44 North-northeast																
Sod				1	2	1		2	1							3
Soil above ditch	1		2	1				1								1
Fill above rocks	1	4	8	12	3	4	5	3	2	2		1				14
Rocks layer																
Fill below rocks	1		5	6	3	1	4	1	2							11
Log layer		3					2									7
Fascines																
Clay																
5G45				1	1	1										3
5G57																
Sod																1
Lens																1
Soil above ditch	1	3	8	4	8	3	3	2	2	3						25
Upper ditch fill				1			1	2								1
Lower ditch fill			1	1				1								1

Table 28. Summary of Occupation Periods

Dates	Major Historical Events	Expected Median Dates			Site Period
1921-1966	Use as a park		1943.5		
1913	Sally port removed			1918.0	IV
-1870	Military abandonment				
1861-1866	Occupied/repaired				
1858	Reformatory				
1857	Pensioner garrison		1852.5		
1847	Works ruinous				
1837-1838	Rebellion/prison				
-1834	Navy Yard closed				
-1828	Fort Lennox completed				
1825	Main gate erected	1823.5			
1823	Fort Lennox 2/3 done			1841.0	III
1819-	Fort Lennox begun		1824.0		
1818	First British fort and ditch still in use				
1817	Fort Lennox planned				
1814-	Navy yard replaces northeast redoubt				
1812-1813	Reoccupation/repair	1812.5			
1809-1812	Abandoned				
1782-1783	Redoubts constructed	1782.5	1792.5		
1776-1779	First British fort constructed	1777.5		1792.5	II
1775-1776	American occupation	1775.5			
1761-1775	Abandoned				
1760-1761	British occupation/ abandonment	1760.5		1760.0	I
1759-1760	French construction, siege, abandonment	1759.5			

Table 29. List of Chronological Periods and Expected Median Dates, Grouped by Potential Content Dates.

Potential Content Period	Expected Median Date	Chronological Period	Expected Median Date
1759-1966	1862.5	1921-1966	1943.5
		1913-1966	1939.5
		1870-1966	1918.0
		1866-1966	1916.0
		1861-1966	1913.5
		1858-1966	1912.0
		1847-1966	1906.5
		1837-1966	1901.5
		1828-1966	1897.0
		1823-1966	1894.5
		1819-1966	1892.5
		1812-1966	1889.0
		1782-1966	1874.0
		1776-1966	1871.0
		1760-1966	1863.0
		1759-1966	1862.5
1759-1921	1840.0	1870-1921	1895.5
		1866-1921	1893.5
		1861-1921	1891.0
		1858-1921	1889.0
		1847-1921	1884.0
		1837-1921	1879.0
		1828-1921	1874.5
		1823-1921	1872.0
		1819-1921	1870.0
		1812-1921	1866.5

Potential Content Period	Expected Median Date	Chronological Period	Expected Median Date
1759-1921	1840.0	1782-1921	1851.5
		1776-1921	1848.5
		1760-1921	1840.5
1759-1870	1814.5	1866-1870	1868.0
		1861-1870	1865.5
		1858-1870	1864.0
		1847-1870	1858.5
		1837-1870	1853.5
		1828-1870	1849.0
		1823-1870	1846.5
		1819-1870	1844.5
		1812-1870	1841.0
		1782-1870	1826.0
		1776-1870	1823.0
		1760-1870	1815.0
1759-1866	1812.5	1861-1866	1863.5
		1858-1866	1862.0
		1847-1866	1856.5
		1837-1866	1851.5
		1828-1866	1847.0
		1823-1866	1844.5
		1819-1866	1842.5
		1812-1866	1839.0
		1782-1866	1824.0
		1776-1866	1821.0
		1760-1866	1813.0
1759-1858	1808.5	1857-1858	1857.5
		1847-1858	1852.5
		1837-1858	1847.5
		1828-1858	1843.0

Potential Content Period	Expected Median Date	Chronological Period	Expected Median Date
		1823-1858	1840.5
		1819-1858	1838.5
		1812-1858	1835.0
		1782-1858	1820.0
		1776-1858	1817.0
		1760-1858	1809.0
1759-1847	1803.0	1834-1847	1840.5
		1837-1847	1842.0
		1828-1847	1837.5
		1823-1847	1835.0
		1819-1847	1833.0
		1812-1847	1829.5
		1782-1847	1814.5
		1776-1847	1811.5
		1760-1847	1803.5
1759-1834	1796.5	1828-1834	1831.0
		1823-1834	1828.5
		1819-1834	1826.5
		1812-1834	1823.0
		1782-1834	1808.0
		1776-1834	1805.0
		1760-1834	1797.0
1759-1828	1793.5	1823-1828	1825.5
		1819-1828	1823.5
		1812-1828	1820.0
		1782-1828	1805.0
		1776-1828	1802.0
		1760-1828	1794.0

Potential Content Period	Expected Median Date	Chronological Period	Expected Median Date
1759-1823	1791.0	1819-1823	1821.0
		1812-1823	1817.5
		1782-1823	1802.5
		1776-1823	1799.5
		1760-1823	1791.5
1759-1819	1789.0	1812-1819	1815.5
		1782-1819	1800.5
		1776-1819	1797.5
		1760-1819	1789.5
1759-1814	1786.5	1812-1814	1813.0
		1782-1814	1798.0
		1776-1814	1795.0
		1760-1814	1787.0
1759-1809	1784.0	1782-1809	1795.5
1759-1783	1771.0	1782-1783	1782.5
		1760-1783	1771.5
		1759-1783	1771.0
1759-1779	1769.0	1776-1779	1777.5
		1760-1779	1769.5
1759-1776	1767.5	1775-1776	1775.5
		1760-1776	1768.0
1759-1761	1760.0	1760-1761	1760.0
1759-1760	1759.5	1759-1760	1759.5

Table 30. Stratigraphic-Historical Models

Stratigraphic Unit	Brief Summary Historical Data	Historical Model Chronological Period	Potential Content Period	Major Site Period
East flank	Lennox construction	1819-1828	1759-1828	III
East flank, northeast	Lennox construction and later fill	1819-1966	1759-1966	III
North face, northeast				
Sod	Recent	1870-1966	1759-1966	IV
Soil above ditch	Lennox occupation	1828-1870	1759-1870	III
Ditch fill above rocks	Lennox construction completed	1823-1828	1759-1828	III
Ditch fill below rocks	Lennox 2/3 complete	1819-1823	1759-1823	III
Log layer	Lennox 2/3 complete	1819-1823	1759-1823	III
Ditch bottom clay	Early occupation	1759-1819	1759-1819	II/III
Fascines	French construction	1759-1760	1759-1760	I
North face, northwest				
Sod	Recent	1870-1966	1759-1966	IV
Topsoil	Later occupation	1861-1870	1759-1870	III
Dark soil	Lennox occupation	1847-1861	1759-1861	III
Fill above ditch	Lennox occupation	1834-1847	1759-1847	III
Lens	Lennox occupation intrusive in ditch	1828-1834	1759-1834	III
Upper ditch fill	Lennox construction complete	1823-1828	1759-1828	III
Lower ditch fill	Lennox construction 2/3 complete	1819-1823	1759-1823	III
West salient				
Sod	Recent	1870-1966	1759-1966	IV
Lens	Later intrusive fill	1834-1870	1759-1870	III
Soil above ditch	Lennox construction	1828-1834	1759-1834	III
West salient				
Upper ditch fill	Lennox construction completed	1823-1828	1759-1828	III
Lower ditch fill	Lennox construction 2/3 completed	1819-1823	1759-1823	III
Redoubt No. 2				
Sod	Recent	1828-1966	1759-1966	III/IV
Fill above masonry	Lennox construction completed	1823-1828	1759-1828	III
Fill south of masonry	Lennox construction completed	1823-1828	1759-1828	III
Log layer	Lennox construction 2/3 complete	1819-1823	1759-1823	III
Clay	Early occupation	1782-1819	1759-1819	II/III
Fill north of wall	Redoubt No. 2 occupation and construction	1782-1819	1759-1819	II/III
Old ditch fill	French occupation levelled for redoubt	1759-1782	1759-1782	I/II
Glacis				
Sod	Recent	1870-1966	1769-1966	IV
Topsoil	Post-Lennox construction	1819-1870	1759-1870	III
Lens	pre- or post-Lennox	1759-1870	1759-1870	I/III

Table 31. Archaeological Model: Ceramic Formula Dating

Stratigraphic Unit	Sherd Sample Size	Median Type Dates		Modal Type Dates	
		Formula Date±SD	SD Range	Formula Date±SD	SD Range
East flank	3	1810±69	1741-1879	1807±66	1741-1873
East flank, northeast	48	1843±27	1816-1870	1841±32	1809-1873
North face, northeast					
Sod	15	1834±21	1813-1856	1834±26	1808-1866
Soil above ditch	67	1831±36	1795-1867	1821±38	1783-1859
Ditch fill above rocks	402	1832±29	1803-1861	1832±32	1800-1864
Ditch fill below rocks	100	1823±39	1784-1863	1822±41	1781-1863
Log layer	11	1809±35	1774-1845	1803±37	1766-1840
Bottom clay	5	1768±27	1741-1795	1764±22	1742-1786
Fascines	1	1749±0	-1749-	1750±0	-1750-
North face, northwest					
Sod	421	1838±27	1811-1865	1836±32	1804-1868
Topsoil	647	1845±27	1818-1872	1844±29	1815-1873
Dark soil	618	1837±34	1803-1872	1836±37	1799-1873
Fill above ditch	15	1853±15	1838-1868	1853±16	1837-1869
Lens	215	1840±28	1812-1868	1842±29	1813-1871
Upper ditch fill	133	1838±28	1810-1868	1837±31	1806-1868
Lower ditch fill	144	1809±38	1771-1847	1805±40	1765-1845
Glacis					
Sod	72	1808±40	1768-1848	1803±44	1759-1847
Topsoil	89	1820±40	1780-1860	1816±43	1773-1859
West salient					
Sod	4	1839±33	1806-1872	1835±43	1792-1878
Lens	29	1812±34	1778-1846	1802±38	1764-1840
Soil above ditch	228	1867±17	1850-1884	1868±18	1850-1886
Upper ditch fill	20	1807±33	1774-1840	1796±39	1757-1835
Lower ditch fill	32	1821±46	1775-1867	1816±51	1765-1867
Redoubt No. 2					
Sod	17	1817±49	1768-1866	1814±48	1766-1862
Fill above masonry	50	1850±32	1818-1882	1852±27	1825-1879
Fill south of masonry	12	1797±26	1771-1823	1787±27	1760-1814
Log layer	35	1824±27	1797-1851	1820±33	1787-1853
Clay layer	1	1859±0	-1859-	1860±0	-1860-
Fill north of masonry	7	1790±0	-1790-	1770±0	-1770-
Old ditch	6	1749±0	-1749-	1750±0	-1750-
Total all units	3447	1836±9	1827-1845	1835±13	1822-1848

Table 32. Archaeological Model: Terminus Post Quem Dating

Stratigraphic Unit	Earliest Date of Latest Type Present in Stratigraphic Unit					T.P.Q. Bracket Limits: Occupation Must be After or Include Dates
	Ceramics	Pipes	Glass	Buttons	Coins	After - Include
East flank	1820					- 1820
East flank, northeast	1820	1847				- 1847
North face, northeast						
Sod	1820	1862				1847 - 1862
Soil above ditch	1820	1847				1847 -
Ditch fill above rock	1820	1847	1814	1800	1838	1847 -
Ditch fill below rock	1820	1847	1770			1820 - 1847
Log layer	1820		1770			1780 - 1820
Bottom clay	1780		1770			- 1780
Fascine	1700					1700 -
North face, northwest						
Sod	1852	1847	1870	1835		1870 -
Topsoil	1852	1847	1850	1830		1870 -
Dark soil	1852	1862	1870	1800		1852 - 1870
Fill above ditch	1820	1826				1852 -
Lens	1852	1826	1814	1815		1826 - 1852
Upper ditch fill	1820	1826	1814	1726		1820 - 1826
Lower ditch fill	1820	1820	1814	1800		- 1820
West salient						
Sod	1813					1891 -
Lens	1820					1891 -
Soil above ditch	1891	1891	1870			1873 - 1891
Upper ditch fill	1813					1873 -
Lower ditch fill	1873					- 1873
Redoubt No. 2						
Sod	1820					1820 -
Fill above masonry	1820					1820 -
Fill south of masonry	1820					1820 -
Log layer	1820					1820 -
Clay layer	1820					1762 - 1820
Fill north of masonry	1762			1726		1726 - 1762
Old ditch fill	1700					1700 -
Glacis						
Sod	1820					1862 -
Topsoil	1820	1862				1850 - 1862
Lens			1850			- 1850

Table 33. Archaeological Bracket Estimates and Final Archaeological Models

	Content Dating Estimates:				Archaeological Model:		
	Formula	Visual Brackets:					
Stratigraphic Unit	Date SD Bracket	Manufacturing Period	Modal Period	T.P.Q. Limits After-Include	Stratigraphic Unit Estimate	Combined Unit Estimate	Major Site Period
East flank	1741-1873	1795-1820	1820-1828	-1820	1820-1828	1820-1828	III
East flank, northeast	1809-1873	1820-1850	1780-1850	-1847	1820-1847	1820-1847	III
North face, northeast							
Sod level	1808-1866	1820-1860	1780-1830	1847-1862	1850-1866	1847-1866	III
Soil above ditch	1783-1859	1820-1850	1780-1850	1847-	1847-1850		
Ditch fill above rock	1800-1864	1820-1850	1776-1850	1847-	1847-		
Ditch fill below rock	1781-1863	1800-1840	1768-1830	1820-1847	1820-1847	1780-1847	II
Log layer	1766-1840	1800-1820	1770-1820	1780-1820	1780-1920		
Bottom clay	1742-1786	1762-1800	1762-1780	-1780	1762-1780	1750-1780	I/II
Fascine	-1750-	1700-1800	-	1700-	1750-1762		
North face, northwest							
Sod level	1804-1868	1820-1852	1768-1852	1870-	1870-	1870-	IV
Topsoil	1815-1873	1830-1852	1768-1852	1870-	1870-		
Dark soil	1799-1873	1820-1850	1768-1850	1852-1870	1860-1870	1826-1870	III
Fill above ditch	1837-1869	1830-1860	1780-1828	1852-1860			
Lens	1813-1871	1820-1852	1770-1852	1826-1852			
Upper ditch fill	1806-1868	1820-1850	1768-1850	1820-1826	1820-1826	1795-1826	I/II
Lower ditch fill	1765-1845	1795-1820	1768-1820	-1820	1795-1820		
Glacis							
Sod level	1759-1847	1800-1850	1780-1850	1862-	1862-		
Topsoil	1773-1859	1800-1820	1768-1820	1850-1862	1850-1862	1850-1862	III
Lens				-1850	-1850		
West salient							
Sod level	1792-1878	1813-1870	1762-1813	1891-	1891-	1891-	IV
Lens	1764-1840	1800-1840	1768-1840	1891-	-1891	1873-1891	IV
Soil above ditch	1850-1886	1840-1873	1807-1873	1873-1891	1873-1891		
Upper ditch fill	1757-1835	1762-1820	1770-1820	1873-	1873-	1780-1873	III
Lower ditch fill	1765-1867	1800-1873	1780-1873	-1873	1780-1873		
Redoubt No. 2							
Sod level	1766-1862	1795-1840	1776-1820	1820-	1830-	1830-	III/IV
Fill above masonry	1825-1879	1800-1900	1780-1820	1820-	-1830		
Fill south of masonry	1760-1814	1775-1820	1776-1820	1820-	-1830	1820-1830	III
Log layer	1787-1853	1820-1840	1780-1830	1820-	1820-1830		
Clay layer	-1860-	1820-1860	1820-1828	1762-1820	1762-1820	1762-1820	II/III
Fill north of masonry	-1770-	1762-1820	1762-1780	1726-1762	1762-1780		
Old ditch	-1750-	1700-1800	-	1700-	1750-	1750-	I

Table 34. Historical and Archaeological Models, North Face, Northeast (5G44)

	Historical Models:					Archaeological Models:			
Stratigraphic Unit	Historical Period	Expected Mid-dates: Period	Content	Combined Unit Model: Period	Mid-date	Combined Unit Model: Formula Date	Period	Stratigraphic Unit Model: Period	Formula Date
Sod level	1870-1966	1819.5	1862.5					1850-1866	1834±26
Soil above ditch	1828-1870	1849.0	1814.5					1847-1850	1821±38
Ditch fill above rocks	1823-1828	1825.5	1793.5					1847-	1832±32
Ditch fill below rocks	1819-1823	1821.0	1791.0	1819-1828	1823	1829	1780-1847	1820-1847	1822±41
Log layer	1819-1823	1821.0	1791.0					1780-1820	1803±37
Clay bottom layer	1759-1819	1789.0	1789.0					1762-1780	1785+21 1764±22
Fascines	1759-1760	1759.5	1759.5					1750-1762	1750±0

Table 35. Historical and Archaeological Models of North Glacis and East Flank

	Historical Models:					Archaeological Models:			
Stratigraphic Unit	Historical Period	Expected Mid-dates: Period	Content	Combined Unit Model: Period	Mid-date	Combined Unit Model: Formula Date	Period	Stratigraphic Unit Model: Period	Formula Date
Glacis sod level (5G44)	1870-1966	1918.0	1862.5					1862-	1803±44
Glacis topsoil	1819-1870	1844.5	1814.5	1759-1966	1862	1810	1850-1862	1850-1862	1816±43
Glacis lens	1759-1870	1814.5	1814.5					-1850	-
East flank (5G35M1)	1819-1828	1823.5	1793.5					1820-1828	1807±66
East flank, northeast (5G45A1)	1819-1870	1844.5	1814.5					1820-1847	1841±32

Table 36. Historical and Archaeological Models, North Face, Northwest Shoulder (5G48)

	Historical Models:					Archaeological Models:			
Stratigraphic Unit	Historical Period	Expected Mid-dates: Period	Content	Combined Unit Model: Period	Mid-date	Combined Unit Model: Formula Date	Period	Stratigraphic Unit Model: Period	Formula Date
Sod level	1870-1966	1918.5	1862.5					1870-	1836±32
Topsoil	1861-1870	1865.5	1814.5					1870-	1844±29
Dark soil	1847-1861	1854.0	1810.0	1828-1870	1849	1840	1826-1870	1860-1870	1836±37
Fill above ditch	1834-1847	1840.5	1803.0					1852-1860	1853±16
Lens	1828-1834	1831.0	1796.5					1826-1852	1842±29
Upper ditch fill	1823-1828	1825.5	1793.5	1819-1828	1823	1820	1795-1826	1820-1826	1837±31
Lower ditch fill	1819-1823	1821.0	1791.0					1795-1820	1805±40
Log layer	1819-1823	1821.0	1791.0					Not Excavated	

Table 37. Historical and Archaeological Models of the West Salient (5G57)

	Historical Models:					Archaeological Models:			
Stratigraphic Unit	Historical Period	Expected Mid-dates: Period	Content	Combined Unit Model: Period	Mid-date	Combined Unit Model: Formula Date	Period	Stratigraphic Unit Model: Period	Formula Date
Sod level	1870-1966	1918.0	1862.5					1891-	1835±43
Lens	1834-1870	1852.0	1814.5	1828-1870	1849	1860	1873-1891	-1891	1802±38
Soil above ditch	1828-1834	1831.5	1796.5					1873-1891	1868±18
Upper ditch fill	1823-1828	1825.5	1793.5					1873-	1796±39
Lower ditch fill	1819-1823	1821.0	1791.0	1819-1828	1823	1808	1780-1873	1780-1873	1816±51
Log layer	1819-1823	1821.0	1791.0					Not Excavated	

Table 38. Historical and Archaeological Models of Redoubt No. 2 (SG49)

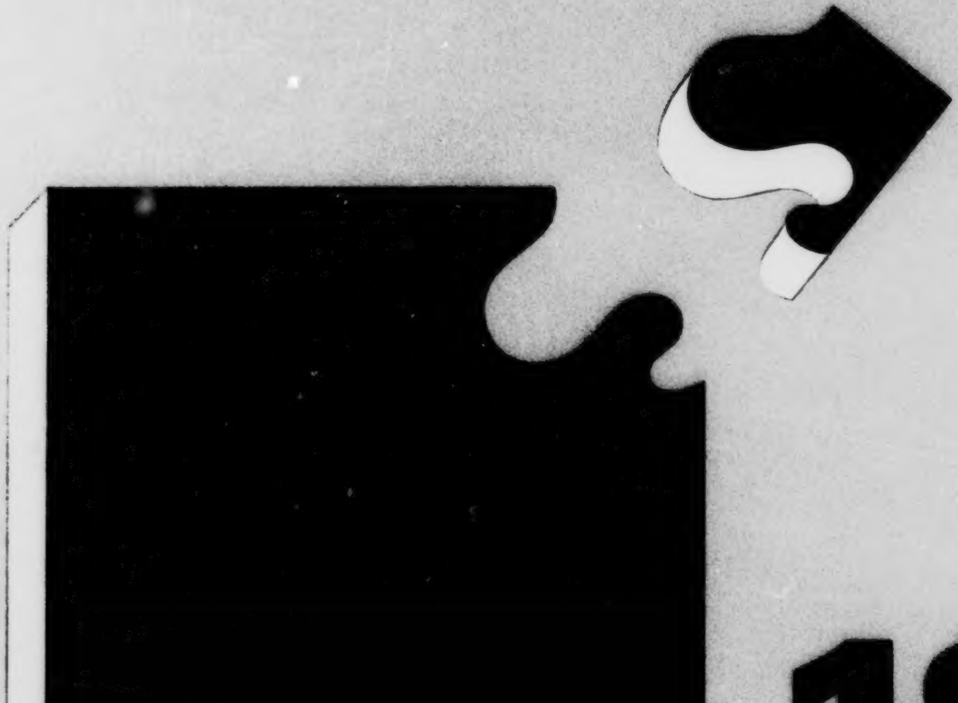
Stratigraphic Unit	Historical Models: Historical Period	Expected Mid-dates: Period	Content	Combined Unit Model: Period	Mid-date	Archaeological Models: Combined Unit Model: Formula Date	Period	Stratigraphic Unit Model: Period	Formula Date
Sod level	1828-1966	1897.0	1862.5					1830-	1814±48
Fill above masonry	1823-1828	1825.5	1793.5					-1830	1852±27
Fill south of masonry	1823-1828	1825.5	1793.5	1819-1828	1823	1832	1820-1830	-1830	1787±27
Log layer	1819-1823	1821.0	1791.0					1820-1830	1820±33
Clay layer	1782-1819	1800.5	1789.0	1782-1819	1800	1781	1762-1820	1762-1820	1860±0
Fill north of masonry	1782-1819	1800.5	1789.0					1762-1780	1770±0
Old ditch	1759-1782	1770.5	1770.5					1750-	1750±0

Table 39. Historical and Archaeological Models; Comparison and Summary of Combined Stratigraphic Units From All Operations

Combined Stratigraphic Unit Description	Historical Models: Chronological Period	Expected Mid-date	Archaeological Models: Ceramic Formula Date	T.P.Q. Limits After-Include	Adjusted Archaeological Period Estimate
Sod layers	1870-1966	1918 (1862)	1831±36	1891- 1870-	1891-
All deposits above ditch line	1828-1870	1849	1842±27	1873-1891 1850-1862 1847- 1826-1870	1847-1873-1891
All ditch fill deposits	1819-1828	1823	1825±37	-1873 1820-1830 1795-1826 1780-1847	1820-1847-(1873)
Ditch bottom clay layers	1759-1819	1789	1791±50	-1820 -1780	1780-1820
French fortification ditch and fascine	1759-1860	1759	1750±0	1700-	1750-1780
Redoubt No. 2 construction and use	1782-1819	1800	1770±0	1726-1762	-

Volume

2



18b

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18B

EARLY FORTIFICATION DITCHES AT ILE-AUX-NOIX, QUEBEC

ROGER T. GRANGE, JR.

NATIONAL HISTORIC PARKS AND SITES BRANCH	DIRECTION DES LIEUX ET DES PARCS HISTORIQUES NATIONAUX
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Early Fortification Ditches at
Ile-aux-Noix, Quebec
by Roger T. Grange, Jr.

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Appendix A. Ceramic Data Tabulation

Table 1. Unglazed Coarse Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44A1	2	Straight-sided body sherds	6.5	
5G44A1	1	Split rim fragment		
5G44A1	1	Rim sherd; straight wall, rounded lip	8.3	
5G48D2	1	Body sherd; marly/wall juncture ?		
5G48D3	1	Body sherd, split		
5G48B1	1	Body sherd fragment		
5G48B2	1	Body sherd fragment		
5G48B4	1	Body sherd fragment		
5G48D1	4	Body sherd fragment		
5G48D2	3	Body sherd fragment		
5G48D3	1	Body sherd fragment		

Table 1b. Olive Jar

5G48B8	1	Rim sherd; split fragment, olive jar form ?

Table 2. Brown/Olive Glazed Coarse Earthenware

Provenience			Dimensions (mm)	
Excavation lot	Number	Description	Thickness	Estimated Diameter
5G44F3	1	Rim sherd. Small flared rim. Strong orange paste. Both interior and exterior glazed; strong yellowish brown (10YR 5/6) colour.	7.0	200.0
5G44F4	1	Rim sherd. Possibly same vessel as above.	7.0	200.0
5G44F7	1	Rim sherd. Flared rim. Strong orange paste. Glazed on both interior and exterior. Strong yellowish brown (10YR 5/6) to moderate olive brown (2.5Y 4/4) in colour.	7.0	200.0
5G44F7	1	Rim sherd. Small fragment.	6.9	indet.
5G44F9	1	Handle. Large strap handle. Concave on interior and grooved on exterior. Strong orange paste. Glaze ranges from light olive brown (2.5Y 5/5) to strong yellowish brown (7.5YR 5/7) colour.	19.0	119.0 long 30.0 wide
5G44D11	1	Body sherd. Strong orange paste. Strong yellowish brown (10YR 5/6) glaze on interior and exterior.	9.6	
5G44F4	1	Body sherd. Strong orange paste. Strong yellowish brown (10YR 5/6) glaze on interior and exterior.	4.9	
5G44F7	1	Body sherd. Strong orange paste. Strong yellowish brown (10YR 5/6) glaze on interior and exterior. Moderate olive brown glaze.	7.9	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44A1	2	Body sherds. One surface unglazed. One glazed strong yellowish brown.	7.0	
5G57B4	1	Body sherd. Strong orange paste. Exterior unglazed. Interior glazed strong yellowish brown (7.5YR 5/7).	13.4	
5G49C2	1	Base fragment. Flat-bottomed vessel with straight flared side. Paste colour strong orange (2.5YR). Exterior is unglazed but has a darker brownish orange colour. Interior was glazed; mostly chipped away but traces remain; moderate brown colour (7.5YR 4/5).	8.0	130.0 base
5G49C2	1	Base fragment. Same as above except size.	9.0	110.0 base
5G49C2	4	Body sherds. Same as above.	5.5-11.0	
5G57B1	1	Body sherd. Dark orange yellow paste (approx. 10YR 6/8). Exterior unglazed and dark reddish brown colour. Interior has traces of greenish (light olive brown 2.5Y 5/5) glaze.	10.0	
5G57B4	1	Rim fragment. Split fragment of rim. Strong orange (5YR 6/11) paste. Exterior unglazed except around collar-like rim area which is brownish grey colour (10YR3/1) but not shiny. Trace of greenish glaze on interior is moderate brown (7.5YR 4/5) colour.	indet.	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B5	1	Rim-base fragment. Segment of one side of a large open bowl (of Castle Hill) with trace of pouring spout. Folded, down-turned collar-like rim. Flat bottom, curved out-flaring sides. Exterior unglazed except for splashes on body and on the rim. Glaze chipped off rim by use. Interior glazed moderate olive (5Y 4/3) colour. Paste is strong orange (5YR 6/111).	10.0 wall	250.0 rim 120.0 base
5G44D1	1	Body sherd. Strong orange paste. Exterior unglazed. Interior mottled green-brown glaze. Moderate brown (7.5YR 4/5) to brownish grey (2.5Y 3/1) colours.	6.0	
5G44D11	1	Rim sherd. Strong orange (5YR 6/11) paste. Open bowl or pan form with thickened collar-like rim exterior and concave rim interior. Exterior of vessel unglazed except rim. Interior glaze is greyish to moderate brown (7.5YR 4.5).	7.0	260.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D5	1	Vessel base. Segment of bottom of flat-bottomed vessel. Bottom chipped and pitted from wear on exterior. Exterior unglazed. Paste is strong orange yellow (10YR) colour. Interior was originally glazed and traces, very small, of light olive brown (2.5Y 5/5) glaze remain. Bottom of interior shows criss-crossed cuts and scratches indicating that glaze wore off while vessel was in use.	14.0	140.0 base
5G48A5	1	Rim sherd. Split rim sherd. Orange paste. Exterior missing. Interior has stripe of white slip around rim. Remainder of interior glazed light olive brown (2.5Y 5/5).	indet.	260.0
5G48A5	1	Rim sherd. Slightly flared nearly vertical walled vessel with flange like rim. Strong orange paste (5YR 6/11). Top of rim is strong brown (2.5YR 4/7) while interior and exterior are moderate yellowish brown (10YR 4/4) glaze colour.	8.0	240.0
5G48C1	1	Rim sherd. Split fragment. Interior missing. Orange paste. Exterior has traces of strong yellowish brown glaze (7.5YR 5/7) on rim.	indet.	2.60.0+ inc.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D2	1	Base sherd. Segment of bottom of flat-bottomed vessel, with flared sides; probably an open bowl or pan. Base unglazed. Orange paste; exterior unglazed but splotches of interior glaze are present. Interior is moderate yellowish brown (10YR 4/4) colour.	9.0	100.0 base
5G48B2	1	Base fragment. Body sherd with small remnant of flat bottom edge. Flared wall; open bowl form. Exterior unglazed but has splotches of interior glaze. Interior has trace of strong yellowish brown (10YR 5/6) colour glaze.	11.0	120.0? base
5G48B3	1	Rim sherd. Tiny fragment of vessel lip, possibly from pouring spout. Strong yellowish brown glaze (10YR 5/6).	10.0	indet.
5G48A5	1	Body sherd. Interior and exterior glazed; moderate brown (7.5YR 4/5).	9.0	
5G48B2	2	Body sherds. Interior and exterior glazed; moderate yellowish brown (10YR 4/4).	11.4	
5G48B4	1	Body sherd. Exterior unglazed except for splashes. Interior moderate brown 7.5YR 4/5.	6.1	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B2	2	Body sherd. Exterior unglazed except for splashes. Interior strong yellowish brown (10YR 5/6).	9.0	
5G48C1	2	Body sherd. Exterior unglazed except for splashes. Interior strong yellowish brown (10YR 5/6).	8.0-11.0	
5G48D2	4	Body sherd. Exterior unglazed except for splashes. Interior strong yellowish brown (10YR 5/6).	6.0-10.0	
5G48A5	1	Body sherd. Split; exterior missing. Traces of strong yellowish brown glaze on interior.	indet.	
5G48B2	2	Body sherd. Split; exterior missing. Traces of strong yellowish brown glaze on interior.	indet.	
5G48C1	2	Body sherd. Split; exterior missing. Traces of strong yellowish brown glaze on interior.	indet.	
5G48D1	1	Body sherd. Split; exterior missing. Traces of strong yellowish brown glaze on interior.	indet.	
5G48D3	2	Body sherd. Split; exterior missing. Traces of strong yellowish brown glaze on interior.	indet.	
5G48D3	1	Body sherd. Split; exterior missing. Interior has bubbled defective glaze of olive colour.		

Table 3. Plain Glazed Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G44D3	1	Body sherd. Wheel-made coarse earthenware with reddish (strong orange approx. 5YR 7/11) paste. Both interior and exterior have a very dark brown, almost black glaze.	Split	
5G44D7	4	Body sherds. Wheel-made coarse earthenware with reddish (strong orange approx. 5YR 7/11) paste. Both interior and exterior have a very dark brown, almost black glaze.	Split	
5G48B4	1	Body sherd. Brownish orange (5YR 5/8) paste. Exterior? unglazed; some fire clouding. Interior moderate reddish brown glaze (2.5YR 3/3).	13.0	
5G48D3	1	Rim sherd. Brownish orange (5YR 5/8) paste. Exterior unglazed. Lip glazed but worn off. Interior moderate brown (5YR 3/3) glaze. Thickened lip vessel edge.	9.5	260.0

Table 4. Plain Slipware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44A1	1	Rim sherd. Marly edge fragment of coarse earthenware with red paste; strong brown (2.5YR 4/7). Exterior is unglazed except for splashes of yellow green interior. Rim edge is brown glazed (moderate reddish brown, 2.5YR 3/3) and traces of this glaze also appear along the rim on the exterior. Interior is covered with a thin layer of white slip and then with an opaque light yellow glaze.	26.0 marly width 7.0	270.0 rim
5G44A1	1	Rim sherd. Marly edge fragment of large coarse earthenware vessel. Reddish paste (strong yellowish brown; 7.5YR 5/7). Exterior is unglazed except for splash traces of interior yellow. Interior is covered with a thin layer of white slip and then a yellow glaze (approx. brilliant yellow, 25Y 9/9) which has traces of a flowing brown in spots.	36.0 marly width 11.0	316.0
5G44A1	1	Body sherd. Coarse earthenware. Reddish paste, brownish orange (5YR 5/8) in colour. Interior has thin layer of white slip and light yellow glaze. Exterior has moderate reddish brown glaze (2.5YR 3/3) with tiny fleck of yellow present.	5.0	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44D3	1	Rim sherd. Fragment of vessel with globular body and outflared rounded rim. Interior has thin layer of white slip and yellow glaze, thin at the lip where exterior glaze begins. Exterior is moderate brown (5YR 3/3) glaze with many yellow flecks or speckles.	4.8	140.0 rim
5G44D7	1	Body sherd. Split fragment with moderate brown glaze with tiny flecks of yellow present. Since sherd is split no yellow glazed surface is present, but paste and brown glaze with yellow flecks are present.		
5G44D8	5	Body sherds. Split fragments with moderate brown glaze with tiny flecks of yellow present. Since sherds are split, no yellow glazed surface is present, but paste and brown glaze with yellow flecks are present.		
5G44D3	1	Rim sherd. Fragment of vessel with globular body and outflared rim. Interior has thin layer of white slip and yellow glaze, thin at the lip where exterior glaze begins. Exterior is moderate brown (5YR 3/3) glaze with many yellow flecks and speckles.	4.8	140.0 rim

Table 5. Trailed Slipware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G35M1	1	Body sherd. Red paste coarse earthenware. Clear glaze in a wide drip line on interior; adjacent to the glazed band the surface is partially glazed. The exterior is glazed but with a thin, rather pebbly feeling coat. Exterior is strong brown (2.5YR 4/2). Interior under thick glaze streak is brownish orange (5YR 5/8). Paste colour is brownish orange (5YR 5/8).	6.4	
5G49B1	1	Body sherd. Fragment of coarse earthenware sherd with strong orange paste (2.5YR 6/12). Exterior unglazed and has lime deposit which extends over broken edges. Interior has clear glaze giving it a strong brown (5YR 4/5) colour.	10.4	
5G44D6	1	Body sherd. Coarse earthenware sherd. Strong orange paste (5YR 6/11). Exterior unglazed. Interior glazed with clear glaze giving moderate reddish brown colour (10R 3/4).	5.4	
5G44D12	1	Body sherd. Strong orange paste (2.5YR 6/12). Interior has clear glaze and strong brown (2.5YR 4/7) colour. Exterior has two encircling incised grooves. Traces of clear glaze thin and incompletely covered.	6.2	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G48B1	1	Rim sherd. Reddish paste (strong orange 5YR 6/11) coarse earthenware. Exterior unglazed. Interior has decorative blobs of white slip which appear yellow under the glaze. Clear glaze gives interior a strong brown colour (2.5YR 4/7). Vessel with flared concave rim.	5.4	indet.
5G48D2	1	Rim sherd. Split fragment of flared rim. Exterior missing. Interior has trailed line of white slip and is glazed moderate reddish brown (10R 3/4).	indet.	260.0
5G48B1	1	Base sherd. Segment of flat-bottomed vessel with straight flared side. Strong orange (2.5YR 6/12) paste. Exterior is unglazed, except for tiny splash of glaze. Interior has blobs of white slip (appears yellow) under glaze. Clear glaze appears strong brown (2.5YR 4/7) colour.	9.0	80.0 base

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B2	2	Base sherds. Segments of flat-bottomed vessel with straight flared side. Strong orange (2.5YR 6/12) paste. Exterior is unglazed except for tiny splash of glaze. Interior has blobs of white slip (appears yellow) under glaze. Clear glaze appears strong brown (2.5YR 4/7) colour.	9.0	80.0 base
5G48B2	1	Body sherd. Exterior unglazed. Interior has white slip blob and strong brown (2.5YR 4/7) clear glaze colour.	5.0	
5G48B3	1	Body sherd. Exterior unglazed. Interior has two trailed lines of white slip underglaze. Glaze is moderate brown (7.5YR 4/5).	7.1	
5G48B4	1	Body sherd. Split; exterior missing. Interior has trailed white slip line underglaze. Glaze gives strong yellowish brown (7.5YR 5/7) colour.	indet.	
5G48C1	1	Body sherd. Orange paste. Exterior unglazed but strong brown (2.5YR 4/7) colour. Interior has a white slip trailed line underglaze and glaze gives strong yellowish brown (7.5YR 5/7) colour.	6.3	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D1	1	Body sherd. Split. Exterior missing; interior has trace of white slip trailed line and strong brown (2.5YR 4/7) colour glaze.	indet.	
5G48B1	1	Rim sherd. Lip fragment, rounded-concave rim. Exterior unglazed except at rim. Interior has clear glaze strong brown (2.5YR 4/7) colour. No trace of slip underglaze decoration but in all other respects the same as Staffordshire "Metropolitan slipware."	5.0	180.0
5G48B2	1	Rim sherd. Lip fragment, rounded-concave rim. Exterior unglazed except at rim. Interior has clear glaze strong brown (2.5YR 4/7) colour. No trace of slip underglaze decoration but in all other respects the same as Staffordshire "Metropolitan slipware."	4.9	180.0
5G48B2	2	Rim sherds. Thick rounded lip. Strong brown glaze colour.	indet.	260.0
5G48C1	1	Rim sherd. Similar to 5G48B1 above.	indet.	indet.
5G48D1	1	Rim sherd. Split. Strong brown glaze colour.	indet.	indet.
5G48B2	1	Base sherd. Segment of flat bottom and flared wall vessel; open bowl. Exterior unglazed. Interior strong brown colour.	7.7	80.0 base

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B1	2	Body sherds. Strong brown colour.	5.0	
5G48B2	3	Body sherds. Strong brown colour.	7.0	
5G48C1	1	Body sherds. Strong brown colour.	indet.	
5G48D2	1	Body sherds. Strong brown colour.	6.4	
5G48A5	3	Body sherds. Split sherds. Interior missing. Exterior unglazed but has traces of strong brown colour where glaze has splashed. Similar to the exterior surfaces of sherds classified as Staffordshire or Metropolitan slipware.	indet.	
5G48B1	1	"	indet.	
5G48B2	2	"		
5G48C1	5	"		
5G48D1	1	"		
5G48D2	1	"		
5G48B2	1	Rim sherd. Orange paste. Rounded-concave rim form, strongly thickened lip. Both surfaces glazed, strong brown (2.5YR 4/7) colour. On one surface scar from trailed slip decoration which has chipped away is present.	6.8	260.0
5G48B2	2	Body sherd. "	6.8	

Table 6. Combed Slipware

Provenience Excavation lot	Number	Description	Dimensions (mm)
5G48C1	1	Body sherd. Trace of brown line.	split
5G48D3	1	Body sherd. Three brown parallel lines.	4 thick

Table 7. Delftware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
Decorated Delftware, 49				
5G44D5	1	Body sherd. Traces of blue design.	Split	
Plain White Delftware, 65				
5G44B7	1	Base fragment of vessel with high (12 mm) wedge-shaped footring. Bluish white glaze. No decoration present.	5.6	70.0 footring
5G44D7	1	Body sherd. Glaze flaked off.	5.0	
5G44F3	2	Body sherds. Traces of bluish white glaze remain.		

Table 8. Creambodied Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B8	1	Rim sherd. Vertical walled vessel. Exterior has moulded row of dots below rim similar to those found on cream-coloured ware. Interior has brownish grey glaze, mottled; exterior has both brownish grey and green mottled colour. Variegated glaze.	2.8	140.0 rim
5G48B8	1	Body sherd. Same as above. Variegated glaze.	3.0	
5G48A1	1	Body sherd. Mottled brown tortoise-shell glaze.	Split	
5G48A2	1	Body sherd. Mottled brown tortoise-shell glaze.	Split	
5G48B1	1	Body sherd. Mottled brown glaze. Thickened rim.	3.0	130.0 rim
5G48B3	1	Lid from teapot (?) with flange. Outer edge of rim of lid is slightly up-curved. Central knob. Dark, slightly mottled brown glaze (10R 3/4).	3.0	19.0 knob 50.0 flange
Yellow Glazed Creambodied Earthenware				
5G44A1	1	Small split body sherd with clear yellow glaze.	Split	
Green-glazed Creambodied Earthenware				
5G48B5	3	Body sherds.	2.2 thick	
5G48B5	1	Base sherd. Fragment of flat-bottomed vessel with rounded foot ring at base perimeter. Trace of out-flared vessel wall present.	3.0 thick	110.0 base diameter

Table 9. Creamware

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G45A1	5	Body sherds. Plain.	3.9	
5G44D1	1	Rim sherd. Vertical sided vessel. Plain bowl ?	3.9	150.0
5G44B5	1	Base sherd. Flat. Has small circular stilt mark on bottom, 5 mm in diameter.	3.2	
5G44D3	1	Base fragment of vessel with low rounded footring.	indet.	120.0 footring
5G44B5	26	Body sherds, plain.		
5G44D1	9	Body sherds, plain.		
5G44D3	2	Body sherds, plain.		
5G44D5	1	Rim sherd. Marly edge of plate. Scalloped rim with moulded feather edge design.	6.2	indet.
5G44D5	1	Rim sherd. Large fragment of body and marly edge of a serving vessel; probably an elongated platter.	4.0	indet.
5G44D7	1	Rim sherd? Probably rim of vessel with everted lip. Badly split.	indet.	indet.
5G44D10	1	Rim sherd. Fragment of marly edge. Plain.	2.8	indet.
5G44F2	1	Body sherd. Section of a spout.	indet.	indet.
5G44F1	1	Rim sherd. Split segment of marly edge.	indet.	indet.
5G44F6	1	Rim sherd. Open bowl form with plain rounded rim.	2.9	120.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44F3	1	Rim sherd. Fragment of vessel with inward beveled rim and a rolled lip.	3.0	90.0
5G44D15	1	Base fragment. Flat bottom plate. No footring.	3.8	80.0 footring
5G44B7	3	Footring fragments. Three tiny fragments of low rounded footrings.	indet.	
5G44B7	2	Bottom sherds. With moulded ring of impressed dots.	3.9	
5G44B7	1	Footring fragment. Small section of high wedge-shaped footring.	indet.	5.1 high indet.
5G44B7	1	Body sherd. Fragment with trace of feather edge (?) design moulded.	3.0	
5G44B8	1	Rim sherd. Fragment of marly edge plain. Split.	indet.	indet.
5G44B8	1	Rim sherd. Fragment of marly edge. Plain.		18.0 marly width
5G44B3	1	Body sherd		
5G44B7	1	Body sherd		
5G44B8	3	Body sherds		
5G44D6	1	Body sherd		
5G44D7	5	Body sherds		
5G44D9	1	Body sherd		
5G44D10	3	Body sherds		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D11	1	Body sherd		
5G44D12	1	Body sherd		
5G44D16	1	Body sherd		
5G44F2	2	Body sherds		
5G44F3	3	Body sherds		
5G44F6	2	Body sherds		
5G48A2	1	Rim sherd. Indeterminate vessel. Possibly marly edge fragment.	3.2	indet.
5G48A5	2	Rim sherds. Vertical walled vessel with groove 6 mm wide moulded below rim on exterior.	3.0	90.0 rim
5G48B2	6	Rim sherds. Small fragments of marly edges. Plain. Plates.	4.0	260.0
5G48B3	1	Rim and body fragment of large globular vessel with flange rim. Probably chamber pot.	3.5	210.0 mouth 260.0 rim
5G48B3	1	Rim sherd. Fragment of plain marly edge. Plate.	4.8	260.0
5G48B3	1	Rim sherd. Fragment of marly edge of plate. Rim was either scalloped or octagonal.	4.1	indet.
5G48B3	2	Rim sherds. Fragments of marly edge, concave, plain. Scalloped rim form.	4.0	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B4	1	Rim sherd. Fragment of vertical walled vessel, probably a cup. Has moulded indented groove filled with dots around exterior below the rim.	2.4	90.0
5G48B5	1	Rim sherd. Fragment of plain plate marly edge.	4.1	260.0
5G48B8	1	Rim sherd. Fragment of marly edge (?).	3.4	indet.
5G48C1	1	Rim sherd. Fragment of marly edge with scalloped moulded feather edge design. Split sherd.	indet.	indet.
5G48C3	1	Rim sherd. Fragment of scalloped rim plate marly edge with moulded feather edge design.	3.1	indet.
5G48D1	1	Rim sherd. Fragment of marly edge (?)	3.3	indet.
5G48D2	2	Rim sherds. Fragments of plate marly edge. Plain, concave.	4.1	260.0
5G48D3	1	Rim sherd. Fragment of tiny flange-like rim.	2.2	90.0 rim
5G48D3	1	Rim sherd. Fragment of plate marly edge, plain, concave. Probably a scalloped rim.	4.0	indet.
5G48D3	1	Rim sherd. Fragment of plate marly edge. Scalloped, plain.	4.6	indet.
5G48D3	1	Rim sherd. Fragment of marly edge with scalloped rim and moulded feather edge design.	4.0	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48E2	5	Rim, body and base sherds from single vessel. Plain smooth marly edge. Deep rounded body. Base has flat bottom and no footring.	3.4	260.0
5G48E2	5	Rim, body and base sherds from single vessel. Plain smooth marly edge. Deep rounded body. Base has flat bottom and no footring.	3.4	260.0
5G48E2	2	Rim, body and base fragment. Large serving platter probably oval shape. Flat bottom with no footring. Plain marly edge.	6.0	315.0 incomp. length indet.
5G48A1	1	Footring fragment. Segment of low rounded pedestal-like footstand.		60.0
5G48A4	1	Base fragment. Flat-bottomed vessel which lacks a footstand.	3.0	160.0 footring
5G48A5	1	Base fragment. Scar from footring.	indet.	indet.
5G48B1	1	Base fragment. Flat bottom, no footring.	3.2	indet.
5G48B1	1	Base fragment. Low rounded footring.	4.0	160.0 footring
5G48B2	1	Base fragment. Flat-bottomed, no footring. Steep sloping sides, but too fragmentary to determine form.	indet.	indet.
5G48B2	1	Base fragment. Has low rounded footring.	3.9	160.0 ring.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B3	3	Base fragments. Low rounded footring.	4.1	160.0
5G48C1	1	Base fragment. Has an outflared, rounded footring.	3.0	90.0 footring
5G48C1	1	Base fragment, with low rounded footring.	3.1	indet.
5G48C1	1	Footring fragment of apparently large rounded footring.	-	indet.
5G48C3	1	Base fragment of plate with low rounded footring.	4.0	160.0
5G48D1	1	Base fragment. Footstand formed by indented bottom.	5.0	160.0
5G48D3	3	Footring fragments, low rounded.	indet.	indet.
5G48E2	1	Base and wall fragment of plate with indented bottom footring.	4.5	indet.
5G48A1	20	Body sherds		
5G48A2	2	Body sherds		
5G48A4	2	Body sherds		
5G48A5	31	Body sherds		
5G48B1	3	Body sherds		
5G48B2	23	Body sherds		
5G48B3	3	Body sherds		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B4	1	Body sherd		
5G48B5	1	Body sherd		
5G48B8	1	Body sherd		
5G48C1	12	Body sherds		
5G48C3	1	Body sherd		
5G48D1	18	Body sherds		
5G48D3	7	Body sherds		
5G48E2	5	Body sherds		
5G49B1	1	Rim sherd. Indeterminate form. Possibly cup.	2.3	90.0
5G49D2	1	Rim sherd. Plate marly edge with scalloped form rim. Plain.	4.4	260.0
5G49D2	1	Rim sherd. Plate marly edge with scalloped rim. Plain.	4.5	indet.
5G49A6	1	Base fragment with thick projecting, outflared footring.	6.0	160.0 footring
5G49D2	1	Base fragment. Flat bottomed plate (?) with low rounded footring.	3.5	160.0 footring
5G49A1	1	Body sherd		
5G49A4	6	Body sherds		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G49A6	5	Body sherds		
5G49B1	2	Body sherds		
5G49D2	4	Body sherds		
5G57B1	4	Rim sherds. Fragments from a vessel with an everted mouth. Rim is formed by a hollow roll. Badly broken.	3.8	200.0? mouth
5G57B3	1	Rim sherd fragment from above vessel.		indet.
5G47B4	1	Rim sherd. Marly edge fragment. Plain, concave.	4.5	indet.
5G57B4	1	Rim sherd. Fragment from rim of marly edge with row of moulded diamonds on raised band around rim. Octagonal rim-shaped vessel, probably a plate.	5.0	indet.
5G57B4	1	Rim sherd. Three fragments of one vessel with narrow marly edge and deep body; bowl.	5.0	260.0
5G57A1	1	Base sherd with high (9 mm) thin wedge-shaped footring.	1.7	70.0 footring
5G57B1	1	Base fragment of footring. High (5 mm) thin wedge-shaped.	5.0	indet.
5G57B3	2	Base sherds with low rounded footring.	4.5	150.0 ?
5G57B3	2	Base sherds with footstand formed by indented bottom.	5.0	160.0
5G57B4	2	Base sherds with low rounded footrings.	4.2	indet.
5G57B1	8	Body sherds		
5G57B3	7	Body sherds		
5G57B4	4	Body sherds		

Table 10. Undecorated Pearlware

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44D4	2	Rim sherds. Indeterminate form.	3.0	indet.
5G44B5	3	Base sherds		
5G44D3	3	Base sherds	4.4	
5G44D5	2	Base sherds		
5G44B6	1	Base sherd remnant of low rounded footring.	4.0	indet.
5G44D4	1	Base sherd remnant of low rounded footring.	4.0	indet.
5G44D8	1	Base sherd remnant of low rounded footring.	4.0	indet.
5G44B1	1	Base sherd indented footstand.	-	
5G44B8	1	Base sherd, low rounded footring.	-	
5G44B8	1	Base sherd, low narrow footring.	-	
5G44B7	3	Body sherds		
5G44B8	2	Body sherds		
5G44D1	1	Base sherd narrow footring 5 mm high.	indet.	indet.
5G44D7	1	Base sherd. Remnant of rounded outflared footring.	indet.	80 footring
5G44A2	1	Body sherd		
5G44B5	11	Body sherds		
5G44B6	1	Body sherd		
5G44D1	1	Body sherd		
5G44D3	6	Body sherds		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D4	10	Body sherds		
5G44D7	1	Body sherd		
5G44D8	11	Body sherds		
5G44D9	2	Body sherds		
5G44D10	1	Body sherd		
5G44D3	1	Body sherd		
5G44D4	1	Body sherd		
5G44A1	1	Body sherd		
5G44D1	1	Base sherd. Flat-bottomed sherd, stilt mark.	4.0	5.0
5G48C1	1	Base sherd. Footstand formed by indented bottom.	indet.	90.0 footstand
5G48D2	2	Base sherds. Footstand formed by indented bottom.	5.0	indet.
5G48E2	4	Base sherds. Footstand formed by indented bottom.		
5G48E2	3	Base sherds. Three fragments of one vessel; one with impressed anchor on base (Davenport).	2.5	160.0 footstand
5G48B2	2	Base sherds, low rounded footring.	4.6	indet.
5G48B8	1	Base sherds, low rounded footring.	2.7	indet.
5G48D1	2	Base sherds, low rounded footring.	indet.	
5G48D3	1	Base sherds, low rounded footring.		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48A3	1	Body sherd		
5G48B2	4	Body sherds		
5G48B3	3	Body sherds		
5G48B8	2	Body sherds		
5G48D1	6	Body sherds		
5G48D3	1	Body sherd		
5G48E2	1	Body sherd		
5G49A6	1	Base fragment. Narrow footring.	3.0	indet.
5G49A4	2	Body sherds		
5G49A5	1	Body sherd		
5G49B2	1	Body sherd		
5G57B2	1	Body sherd	3.7	
5G57B4	1	Base fragment. High narrow footring, 11.3 mm high. Wedge-shaped.	4.0	90.0 footring
5G45A1	2	Body sherds		

Table 11. Blue, Green and Red Shell-edge Pearlware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
Blue Shell-Edge Pearlware				
5G44A1	1	Rim sherd. Moulded lines well defined and curved; irregular lengths. Painted band, irregular width.		
5G44D3	9	Rim sherds		
5G44D7	2	"		
5G44D1	1	"		
4G44D3	1	"		
5G44D15	1	"		
5G44B5	1	Rim sherd. Moulded lines straight, parallel and moderately defined. Painted band, even width.	4.0	
5G44D1	1	"	4.0	
5G44D9	1	"	4.0	
5G44B6	1	Rim sherd. No moulded lines. Blue band feather painted to simulate feather edge moulded pattern.	5.0	
5G44D8	1	Rim sherd. Moulded lines in sets of three. Long central line flanked by outcurved line on each side.	4.5	
5G44A3	1	Rim sherd. Fragment with incomplete design but traces of blue shell-edge decoration.		
5G44B5	2	"		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B6	1	Rim sherd. Fragment with incomplete design but traces of blue shell-edge decoration.		
5G44D3	1	"		
5G44D4	1	"		
5G44D7	1	"		
5G48B1	3	"		
5G48B2	4	"		
5G48B4	1	"		
5G48C1	1	"		
5G48D1	1	"		
5G48D2	1	"		
5G48A4	1	Rim sherd. Moulded lines well defined and curved: irregular lengths. Painted band irregular width.	4.0	indet.
5G48B1	1	"	3.8	
5G48B2	1	"	5.0	260.0
5G48B6	1	"	3.0	160.0
5G48C1	2	"	5.0	
5G48D1	1	"	5.2	260.0
5G48D2	1	"	indet.	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D1	1	Rim sherd. Moulded lines well defined and curved; irregular lengths. Painted band irregular width.	4.7	
5G48A1	1	Rim sherd. Moulded lines straight and/or parallel moderately well defined. Painted band irregular.		
5G48A3	1	"	indet.	
5G48B1	1	"	3.9	160.0
5G48B2	4	"	4.8	
5G48B4	1	"	4.0	260.0
5G48B6	1	"	4.5	
5G48D1	1	"	5.2	
5G48D2	1	"	6.0	
5G48D2	1	"	5.5	260.0
5G48B2	1	"	5.6	260.0
5G48F2	1	"	indet.	
5G48A2	1	Rim sherd. Moulded lines straight and parallel. Moderately well defined. Painted band even width.	indet.	
5G48B1	1	"	indet.	
5G48B2	1	"	indet.	
5G48C1	3	"	6.0	260.0

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48C1	1	Rim sherd. Moulded lines very widely spaced, poorly defined. Painted band, even width.	4.8	260.0
5G48D1	2	Rim sherd. Moulded lines widely spaced, poorly defined; painted band feathered.	indet.	260.0
5G48C1	1	Rim sherd. No moulded lines. Dark parallel lines painted under rim band of even width to simulate feather edge.	5.1	indet.
5G48B1	1	Rim sherd. No moulded lines. Painted rim band feathered to simulate typical decoration.	indet.	
5G48B4	1	"	3.4	
5G48A1	1	Rim sherd. Moulded lines in groups of three. Long central line flanked by outcurved line on each side. Painted band even width.	indet.	
5G48D3	2	"	4.8	
5G45A1	1	Rim sherd. Trace of blue feather edge design.	3.6	
5G49A6	3	"	4.3	
5G57B4	1	Rim sherd. Plate marly fragment. Moulded lines widely spaced. Blue band feathered. Scalloped edge. Marly width ranges from 38 mm to 44 mm; vessel probably of octagonal shape.	5.0	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
Green Shell-Edge Pearlware				
5G44B6	1	Rim fragment. Strong green.	4.8	indet.
5G44D1	1	Rim fragment. Strong green.	4.0	260.0
5G48A3	1	Rim fragment. Strong green.	4.0	indet.
5G48B2	2	Rim fragments. Dark green.	3.5	indet.
5G48B2	3	Rim fragments. Strong green. Split.	indet.	indet.
5G48B8	1	Rim fragments. Strong green? Split.	indet.	indet.
5G48D1	3	Rim fragments. Strong green. Split.	indet.	indet.
5G48F1	2	Rim fragments. Strong green? Split.	indet.	indet.
5G49A6	7	Rim fragments. Dark green.	4.8	indet.
5G48E2	2	Rim fragments, platter rim and chip.		250.0
Red Shell-Edge Refined White Earthenware				
5G48C1	2	Red shell-edge, degenerate.	5.0	260.0 rim

Table 12. Moulded Embossed Pattern

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B2	1	Rim sherd. Fragment of plate brim edge. Rim border is decorated with an embossed moulded design consisting of alternating rosettes and fleur-de-lis below a row of leaves immediately along the rim edge. Rim is simple round form.	6.5	260.0
5G48C1	3	"	5.2	260.0
5G48C2	1	"	5.5	80.0
5G48C3	1	"	6.3	260.0
5G48A5	1	Rim sherd. Fragment of brim edge with scalloped rim. Marly has embossed moulded floral design. Narrow edge of red painted around the rim; does not obscure part of the moulded design.	3.8	260.0
5G45A1	1	Rim sherd. Fragment of plate brim edge of scalloped rim vessel. Row of moulded embossed dots along rim with moulded leaf ? below. Same as 5G44D3. Painted blue band around rim.	indet.	indet.
5G48B3	1	Brim fragment with trace of moulded design of indeterminate form.	4.5	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B3	3	Rim sherds brim edge of scalloped rim vessel. Embossed moulded design of row of dots with rim and vertical lines below. Painted blue band.	4.0	indet.
5G44D4	1	Rim sherd. Brim edge of scalloped rim vessel, probably a plate. Curvilinear embossed moulded designs. Blue painted band.	6.4	260.0 ?
5G44B5	1	Rim sherd. Brim edge of scalloped rim vessel. Curvilinear embossed moulded design and blue band identical to above specimens from 5G44D4. This rim is straight; probably a fragment of a large platter of oblong shape. Sherds split.	indet.	indet.
5G44D3	1	Rim sherd. Brim edge fragment with moulded dots around rim. Moulded leaf design below the dots. Painted blue band.	4.0	indet.
5G48B1	1	Rim sherd. Brim edge of scalloped rim vessel. Moulded row of dots and leaf? design (chipped) below dots. Painted blue band.	3.8	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D2	1	Rim sherd. Brim edge, concave, of scalloped rim vessel. Row of large moulded dots around rim. Moulded leaf pattern below dots. Painted blue band.	5.0	260.0 ?
5G48D1	1	Rim sherd. Tiny fragment with row of large dots around rim. Too small to determine remainder of pattern, but probably same as 5G44D2 described above.	5.0	indet.
5G48A2	1	Rim sherd. Brim fragment of plain round rim vessel. Moulded encircling ridges. Blue painted rim band, and flowed blue colour on body. Split.	indet.	indet.

Table 13. Blue-Banded Rim Refined White Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44A3	1	Rim sherd	4.0	160.0
5G44D9	1	Rim sherd. Split.	indet.	
5G45A1	1	Rim sherd	2.9	indet.

Table 14. Refined White Earthenware with Blue Tint in Glaze Pool

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B5	1	Brim fragment of plate	3.8	indet.
5G44D4	1	Base. Nearly complete base of vessel with low pedestal footstand. Two parallel indented bars 8 mm long and 2 mm wide in centre of bottom are likely stilt marks.	4.0	75.0 foot.
5G44B6	1	Base sherd. Indeterminate form.	3.5	160.0 foot.
5G44D7	1	Base sherd. Remnant of outflared footring.	indet.	80.0 foot.
5G44D8	1	Base sherd	indet.	80.0 foot.
5G55D8	1	Base sherd. Footring scar.	indet.	60.0 foot.
5G44B5	13	Body sherds		
5G44B6	1	"		
5G44D3	1	"		
5G44D4	10	"		
5G44D7	1	"		
5G44D8	1	"		
5G44D9	1	"		
5G48B3	1	Rim sherd. Plain straight walled vessel.	3.0	80.0
5G48B2	3	Base sherds, footstand formed by indented bottom.	4.1	160.0 foot.
5G48B3	1	"	4.2	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B3	1	Base. One half of base of tankard-like vessel with footstand at maximum base diameter. Traces of cordon-like ridges around the vessel.	5.8	77.0 base.
5G48B1	1	Base fragment of bowl-like vessel with outflared footring 7.5 mm high.	4.6	28.0 base.
5G48D2	1	Body sherd		
5G48A1	2	"		
5G48B2	4	"		
5G48D2	1	Base fragment with low rounded footring.		
5G48B3	4	Body sherds		
5G48E2	1	"		
5G49A6	1	"		
5G57B1	1	"		
5G45A1	2	"		
5G49B4	1	Base fragment. Trace of narrow wedge-shaped footring 4 mm high.	5.0	indet.
5G48A2	1	Rim fragment split from vessel with flared mouth.	4.0	indet.

Table 15. Refined White Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B5	1	Rim sherd. Brim edge?	4.8	160.0
5G44D1	3	Rim sherds. Brim edge fragments.	3.8	indet.
5G44D4	1	Rim sherd. Brim edge fragment. Split.	indet.	indet.
5G44D5	1	Rim sherd. Indeterminate form. Split.	indet.	indet.
5G44B5	2	Footring fragments. Low, rounded footrings.	-	indet.
5G44B5	1	Body sherd. Trace of indeterminate moulded design. Split.	indet.	
5G44B6	1	Footring sherd. Low, rounded footring.	2.6	indet.
5G44D1	1	Footring fragment. Scar from narrow footring on bottom sherd. Split.	indet.	indet.
5G44D1	1	Base sherd. Small vessel base with indented bottom forming footstand.	3.8	indet.
5G44D5	1	Base and body fragment. Plate form with small section of concave marly edge and flat bottom without footring. Bottom is too chipped to measure base diameter.	5.1	indet.
5G44D4	1	Body sherd. Sherd from moulded vessel of irregular shape.	3.0	
5G44B3	1	Rim sherd. Plate marly edge; scalloped rim. Plain, rounded lip.	4.1	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G44B8	5	Footring fragments		
5G44B8	29	Body sherds		
5G44D12	1	Body sherd		
5G44B5	29	Body sherds		
5G44B6	5	"		
5G44D1	18	"		
5G44D2	1	"		
5G44D3	31	"		
5G44D4	23	"		
5G44D5	3	"		
5G44D7	8	"		
5G44D8	8	"		
5G44D9	4	"		
5G44F4	2	"		
5G45A1	1	Rim sherd. Plate marly edge. Split.	9.1+	
5G45A1	2	Rim sherds. Plate marly edge. One split.	4.5	260.0 rim
5G45A1	2	Footring fragments.	4.0	indet.
5G45A1	25	Body sherds		
5G48A1	2	Rim sherds. Plate marly edge fragments. Rounded lip.	4.0	260.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A2	1	Rim sherd. Plate marly edge fragment.	4.6	indet.
5G48A4	2	Rim sherds. Plate marly edge fragments. Split.	indet.	260.0
5G48A5	1	Rim sherd. Straight sided vessel. Rounded lip.	3.0	80.0
5G48A5	1	Rim sherd. Indeterminate vessel form. Narrow groove around exterior below lip. Rounded lip. Cup?	4.0	80.0
5G48A5	1	Rim sherd. Thin-walled vessel. Slightly flaring straight sides. Bowl?	2.8	120.0
5G48B1	5	Rim sherds. Fragments of marly edge? Moulded foliate design on exterior.	5.2	220.0
5G48B1	6	Rim sherds. Indeterminate vessel forms; chips.	-	
5G48B1	1	Rim sherd. Marly edge? Rounded lip.	4.0	260.0
5G48B1	2	Rim sherds. Straight vertical-sided vessel; cups? Moulded thickened band around rim exterior.	4.3	90.0
5G48B1	1	Rim sherd. Straight-sided vessel. Cup? Moulded groove around exterior rim.	3.0	90.0
5G48B1	4	Rim sherds. Rims from four different vessels. Rounded lips on flared everted rims.	3.2-5.0	indet.
5G48B2	2	Rim sherds. Marly edge fragments, probably plates. Rounded lip with sharp bottom edge.	5.1	260.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G48B2	2	Rim sherds. Straight vertical-sided vessel: Bowl?	3.0	120.0
5G48B2	1	Rim sherd. Open bowl form, rounded lip.	6.0	indet.
5G48B3	1	Rim sherd. Indeterminate form.	3.5	
5G48C1	1	Rim sherd. Marly edge fragment? Split.	indet.	260.0
5G48C1	1	Rim sherd. Vertical straight-sided vessel.	3.5	90.0
5G48C2	1	Rim sherd. Marly edge fragment of plate. Plain. Lip flattened and rounded.	3.7	260.0
5G48D1	2	Rim sherds. One large and one tiny fragment, marly edge. Rounded lip.	5.1	260.0
5G48D2	2	Rim sherds. Marly edge fragments.	3.7	indet.
5G48D2	1	Rim sherd. Vertical-sided vessel. Split. Moulded groove, wide, around exterior below lip.	indet.	80.0
5G48D3	1	Rim sherd. Marly fragment?	4.0	indet.
5G48F1	1	Rim sherd. Marly edge fragment of plate. Rounded lip.	4.1	260.0
5G48F1	1	Rim sherd. Marly edge fragment of plate with scalloped rim.	4.0	indet.
5G48A2	1	Footring fragment; low, rounded.	-	indet.
5G48A5	1	Footring fragment, low rounded.	4.0	120.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A5	1	Base fragment. Indented foot; split.	indet.	indet.
5G48B1	12	Footring fragments.	4.7	indet.
5G48B1	2	Footring fragments. From larger vessel. Rounded footring.	indet.	140.0
5G48B1	1	Base sherd. Very narrow, low rounded ridge.	5.0	indet.
5G48B1	1	Base sherd. Footstand formed by indented bottom.	6.6	180.0
5G48B2	7	Footring fragments. Small segments, chips, etc.	-	indet.
5G48B2	1	Foot fragment, footstand formed by indented base.	4.4	indet.
5G48B2	1	Base fragment. Flat-bottomed vessel without footring.	indet.	60.0 base
5G48B2	1	Base fragment. Small segment of tiny vessel; flat-bottomed pedestal-like base. Very low.	indet.	22.0
5G48B3	5	Base fragments. Flat-bottomed vessel, probably plate, with low rounded footring. Three different vessels.	4.0	120.0
5G48B3	1	Base fragment. Footstand formed by indented base.	3.2	indet.
5G48B3	1	Base fragment. Footstand; high, outflared and rounded on exterior. Small vessel of indeterminate form.	3.2	60.0 footring
5G48B4	1	Base fragment. Flat-bottomed plate with low rounded footring.	4.0	180.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B7	1	Footring fragment.	-	indet.
5G48C1	2	Footring fragments; low, rounded.	-	indet.
5G48C1	1	Base fragment. Flat-bottomed vessel, probably a plate. Has low ridge-like footring and fiant moulded ridge on vessel wall above footring.	3.7	160.0
5G48C1	2	Base fragments. Flat-bottomed vessel, plate?; without footring.	3.0	160.0
5G48D1	10	Footring fragments, low, rounded.	-	indet.
5G48D1	1	Footring fragment of thick, outflared footring.	-	80.0 footring
5G48D1	1	Base fragment with outflared rounded footring.	4.8	70.0 footring
5G48D1	1	Footring fragment. Outflared, rounded.	-	60.0 footring
5G48D2	4	Footring fragments, low rounded.	-	indet.
5G48D2	1	Base fragment, footstand formed by indented bottom.	3.0	indet.
5G48D2	1	Footring fragment. High footring 8 mm high.	-	indet.
5G48E2	1	Footring fragment. Low, rounded.	-	indet.
5G48F1	1	Footring fragment, low, rounded.	-	100.0
5G48B1	2	Body sherds. Traces of moulded design.	5.1	
5G48C1	1	Body sherd. Traces of moulded design.	indet.	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B1	1	Body sherd. Flat sherd from plate bottom with number 12 impressed.	5.5	
5G48A1	1	Body sherd. Sherd has trace of impressed maker's name. Most of mark is chipped away; remainder illegible.	4.0	
5G48A2	1	Fragment of strap handle.	indet.	
5G48B1	1	Fragment of strap handle.	indet.	
5G48D2	5	Fragments of large strap handle.	indet.	
5G48D3	2	Fragments of strap handle.		
5G48B1	1	Fragment of cup rim with complete moulded handle.	12.0 handle width 61.0 handle length	
5G48B2	1	Fragment of vessel wall with remnant of moulded handle attachment.	3.6	
5G48A1	11	Body sherds.		
5G48A2	31	"		
5G48A4	13	"		
5G48A5	17	"		
5G48B1	156	"		
5G48B2	92	"		
5G48B3	16	"		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B4	1	Body sherds		
5G48B7	6	"		
5G48B8	8	"		
5G48C1	37	"		
5G48C2	6	"		
5G48C3	2	"		
5G48D1	97	"		
5G48D2	45	"		
5G48D3	3	"		
5G48E2	2	"		
5G48F1	4	"		
5G48F2	3	"		
5G49A6	1	Footring fragment	indet.	indet.
5G49A6	9	Body sherds	3.0	
5G49A8	1	Body sherd	4.0	
5G57B2	5	Rim sherds. Fragments of marly edges. Plain.	3.7	220.0
5G57B2	3	Rim sherds. Fragments of marly edges, scalloped rim.	3.4	260.0
5G57B2	7	Rim sherds. Fragments of vertical-sided cups.	3.0	80.0
5G57B2	3	Base sherds. Low rounded footrings.	5.2	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B2	2	Base sherds. Partial fragments of large footring.	3.0	indet.
5G57B2	1	Base sherd. Large flat-bottomed vessel with large rounded footring.	3.4	200.0 footring
5G57B2	1	Loop handle from cup. Split.	-	
5G57B1	5	Body sherds		
5G57B2	24	Body sherds		
5G57B3	2	Body sherds		
5G57B5	2	Body sherds		

Table 16. Willow Pattern Blue Transfer-Printed Refined White Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A5	2	Marly edge fragments. Border design.	4.0	
5G48C1	1	Rim sherd. Border design.	5.0	indet.
5G48D2	5	Rim sherds and marly edge fragments. Border design. Large rim fragment of plate marly edge. Plain rim, rounded lip.		
5G48E2	1	Rim sherd. Border design. Marly edge and rim fragment of deep plate or bowl. One scalloped indentation indicates widely spaced scalloped rim. Rounded lip.	4.6	260.0 rim.
5G48A5	2	Base sherds. Willow pictorial elements. Footring formed by indented bottom.	4.8	160.0 foot.
5G48E2	1	Base sherd. Willow pictorial element. Flat bottom with no footring.	3.5	160.0 foot.
5G48F1	1	Base sherd. Bridge from willow (?) element on exterior. Indented design on interior. Flat bottom, not footring.	4.0	indet.
5G48A5	2	Body sherds. Willow pictorial elements.	4.8	
5G48B1	1	Body sherd. Willow pictorial elements on interior; indeterminate design on exterior.	6.2	
5G48D1	1	Body sherd. Willow pictorial element.	5.7	
5G48D2	2	Body sherds. Willow pictorial element.	3.7	
5G57B2	1	Marly fragment. Border element.		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G44B5	1	Marly fragment.		
5G44D7	1	Rim fragment. Border design.		
5G44D9	1	Marly fragment. Border design.		
5G44D12	1	Marly fragment. Border design.		

Table 17. Blue Transfer-Printed

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G35M1	1	Body sherd. Traces of transfer-printed design on both interior and exterior.	4.0	
5G45A1	1	Rim sherd. Blue design.	3.0	indet.
5G45A1	1	Body sherd. Blue design.	3.9	
5G49A4	1	Body sherd. Blue design.		
5G49A6	1	Rim sherd. Interior decoration.	3.0	160.0 rim
5G49A6	1	Body sherd. Blue design.		
5G49A8	1	Rim sherd. Interior decoration.	2.5	indet.
5G49B1	1	Body sherd. Blue design.		
5G57B1	2	Rim sherds. Blue design, scalloped rim.	3.1	indet.
5G57B1	1	Rim sherd. Blue design on interior. Shallow scalloped rim. Floral decoration. Marly edge.	4.5	260.0
5G57B2	1	Rim sherd. Blue rim stripe on interior. Split.	indet.	indet.
5G57B3	1	Rim sherd. Bowl form. Interior has floral design.	2.4	160.0
5G57B2	1	Base sherd. Flat bottom with low rounded footring. Tiny trace of blue design on interior.	5.0	indet.
5G57B1	4	Body sherds. Blue design.		
5G44B5	1	Rim fragment	indet.	indet.
5G44B6	1	Rim fragment	3.5	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B7	1	Handle fragment. Strap handle. Blue floral design on exterior.	4.0	10.0 wide
5G44B3	1	Body sherd trace of blue design.		
5G44B8	4	Body sherds. Trace of blue design.		
5G44D1	1	Rim sherd. Fragment of lid with flange 8 mm long. Geometric design on exterior.	4.0	indet.
5G44D4	1	Rim sherd. Blue design traces.	6.3	indet.
5G44D12	1	Base fragment with footring scar.		indet.
5G44A3	1	Body sherd. Traces of blue design.		
5G44B5	2	"		
5G44D1	4	"		
5G44D3	3	"		
5G44D4	1	"		
5G44D7	2	"		
5G44D9	3	"		
4G48A1	1	Rim sherd. Blue design.	3.0	indet.
5G48B1	3	Rim sherds. Blue design.	4.0	indet.
5G48B2	2	Rim sherds. Blue design.	3.0	
5G48B8	1	" "	4.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48C1	1	Rim sherd. Blue design.	3.6	
4G48C2	1	Rim sherd. Part of lid (?) with flange scar.	indet.	
5G48D1	2	Rim sherds. Blue design.	3.1	
5G48D1	1	Rim sherd. Blue floral design, interior. Bowl?	2.5	160.0
5G48D1	1	Rim sherd. Blue floral design, interior. Bowl?	3.0	180.0
5G48D2	2	Rim sherds. Blue design.	3.1	indet.
5G48B3	1	Base sherd. Wedge-shaped footring 4.0 mm high.	3.0	80.0 foot.
5G48A4	1	Base sherd. Footring scar.		
5G48A5	1	Base sherd. Footring scar.		
5G48B1	1	Base sherd. Low rounded footring.	4.0	indet.
5G48B2	1	Base sherd. Footring formed by indented base.		
5G48B2	1	Rim sherd. Blue design on exterior. Red rim stripe on interior.	3.2	indet.
5G48A5	1	Rim sherd; blue design.	indet.	
5G48B1	1	Rim sherd; blue design.	2.6	
5G48B2	1	Rim sherd; blue design.	4.0	
4G48A1	2	Body sherds. Blue design.		
5G48A2	6	Body sherds. Blue design.		
5G48A3	6	Body sherds. Blue design.		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G48A4	1	Body sherd. Blue design.		
5G48A5	2	Body sherds. Blue design.		
5G48A6	1	Body sherd. Blue design.		
5G48B1	21	Body sherds. Blue design.		
5G48B2	15	Body sherds. Blue design.		
5G48B3	6	Body sherds. Blue design.		
5G48B8	1	Body sherd. Blue design.		
5G48C1	22	Body sherds. Blue design.		
5G48D1	12	Body sherds. Blue design.		
5G48D2	12	Body sherds. Blue design.		
5G48E2	2	Body sherds. Blue design.		
5G48F1	1	Body sherd. Blue design.		
5G48D1	1	Rim sherd. Trace of blue design over moulded pattern.	4.5	indet.
5G49B1	1	Body sherd. Traces of design in Chinese style.	2.6	
5G57B2	7	Body sherds from a single vessel. White background with bold floral print design. One sherd has flat bottom with low rounded footring.	5.0	160.0 foot.

Table 18. Light Blue Transfer-Printed

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G49A4	1	Base sherd. Trace of light blue design. Low rounded footring.	4.0	indet.
5G57B1	5	Body sherds. Traces of light blue floral design. Moulded vessel of indeterminate shape.	3.0	-
5G44B9	1	Rim sherd. Trace of light blue design on exterior.	3.0	indet.
5G44D4	1	Rim sherd. Trace of light blue design. Split.	indet.	indet.
5G44A1	1	Body sherd. Light blue design.		
5G44A2	2	Body sherds. Light blue design.		
5G44B5	2	Body sherds. Light blue design.		
5G44D1	2	Body sherds. Light blue design.		
5G44D3	1	Body sherds. Light blue design.		
5G44D7	1	Body sherds. Light blue design.		
5G44D10	1	Body sherds. Light blue design.		
5G44F4	1	Body sherds. Light blue design.		
5G48A3	1	Rim sherd. Small split sherd with trace of blue design.	4.2+	indet.
5G48A5	1	Rim sherd. Thickened flared rim with light blue geometric design on exterior below rim.	4.0	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B1	1	Rim sherd. Fragment of plate marly edge. Scalloped rim. Light blue design.	3.3	indet.
5G48B2	1	Rim sherd. Small fragment with blue design on exterior.	4.7	indet.
5G48B2	1	Rim sherd. Fragment of bowl? Geometric and floral design on interior. Geometric rim border and scenic design on exterior.	3.4	indet.
5G48B3	1	Rim sherd. Plate marly edge with light blue floral design. Probably a scalloped rim shape.	4.0	indet.
5G48B3	1	Rim sherd. Bowl fragment? Floral design on interior; scenic or floral design on exterior.	3.1	100.0
5G48B3	1	Rim sherd. Fragment of lid with rounded corner and straight sides. Blue floral design.	6.0	indet.
5G48B3	1	Rim sherd. Fragment of small bowl with scalloped rim. Dendritic floral design in band around interior of rim. Scenic design with town, lake and men on exterior. Moulded vessel form.	3.0	110.0
5G48B3	1	Rim sherd. Plate marly fragment. Blue design.	4.0	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48D1	1	Rim sherd. Bowl ? with scalloped rim. Floral designs on both interior and exterior.	3.7	indet.
5G48D1	1	Rim sherd. Bowl ? fragment. Floral design on both interior and exterior.	2.7	indet.
5G48D2	1	Rim sherd. Marly edge fragment? Floral and geometric design.	3.8	indet.
5G48D2	1	Rim sherd. Small segment of moulded vessel with slightly scalloped rim and moulded rope-like band below recurved wall. Light blue floral design on exterior.	3.0	indet.
5G48B3	1	Base fragment. Small vessel with geometric design on interior. Low rounded footring.	3.3	90.0 footring
5G48B3	1	Base fragment. Portion of side of octagonal? vessel. Blue design on exterior. Indented bottom forms footstand around exterior of base.	4.0	90.0
5G48C1	1	Base fragment. Small vessel with low wall and trace of marly edge. Blue design on interior. Low rounded footring.	2.8	90.0 footring
5G48A5	1	Rim sherd. Bowl? Floral border and scenic? design on interior. Exterior plain.	2.7	180.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D2	1	Base sherd. Trace of blue design. Low rounded footring.	3.8	indet.
5G48A1	1	Body sherd. Light blue design.		
5G48A2	2	Body sherds. Light blue design.		
5G48A3	2	Body sherds. Light blue design.		
5G48A5	1	Body sherd. Light blue design.		
5G48B2	10	Body sherds. Light blue design.		
5G48B3	18	Body sherds. Light blue design.		
5G48C1	1	Body sherd. Light blue design.		
5G48C2	1	Body sherd. Light blue design.		
5G48D1	6	Body sherds. Light blue design.		
5G48D2	5	Body sherds. Light blue design.		

Table 19. Miscellaneous Coloured Transfer-Printed

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B1	1	Body sherd. Trace of green transfer-printed design.	Split.	
5G45A1	1	Body sherd. Trace of green transfer-printed design.		
5G45A1	1	Body sherd. Portion of maker's mark printed in green. The mark includes a segment of a bar, below which are: H & .. TUNST.....	2.7	
5G44D1	1	Body sherd. Trace of green printed design.		
5G44D3	1	Body sherd. Trace of green printed design.		
5G44D6	1	Body sherd. Trace of green printed design. Floral?		
5G44D9	1	Body sherd. Trace of green printed design. Scenic.	5.6	
5G48C1	2	Rim sherds. Tiny rim fragments with trace of green printed design.	3.3	indet.
5G48B1	1	Base sherd. Printed floral design on interior. Moderate rounded footring. Cup?	4.3	80.0 footring.
5G48A5	1	Body sherd, flat. Floral design in green on interior. Maker's mark printed in green on bottom. Surrounded by scroll. Words include: "Bird....." and "R & W"..."		
5G48A4	1	Body sherd with green transfer design.		
5G48B1	1	Body sherd with green transfer design.		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B2	3	Body sherd with green transfer design.		
5G48B3	1	Body sherd with green transfer design.		
5G48D1	3	Body sherd with green transfer design.		
5G57B2	1	Rim sherd. Fragment of marly edge of plate with trace of brown transfer-printed design.	4.8	indet.
5G44D7	1	Body sherd. Trace of brown transfer-printed design.		
5G48C1	2	Rim sherds. Brown transfer-print geometric border on interior. Geometric design, brown print, exterior. Moulded vessel wall. Slightly flared mouth.	4.4	110.0
5G48A5	1	Body sherd. Trace of brown printed word: "SYM..TO.." The "M" is questionable.	4.0	
5G48B4	1	Base sherd. Saucer base with brown floral design. Low rounded footring.	4.3	160.0 footring.
5G48D2	1	Base sherd. Brown design. Low rounded footring.	2.8	indet.
5G48A2	2	Body sherds. Brown printed design.		
5G48B2	4	Body sherds. Brown printed design.		
5G48B3	1	Body sherd. Brown printed design.		
5G48C1	4	Body sherds. Brown printed design.		
5G48D1	1	Body sherds. Brown printed design.		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48D2	4	Body sherds. Brown printed design.		
5G48B2	1	Body sherd. Trace of brown transfer-print geometric design on interior. Red transfer-print scene on exterior.		
5G44A2	1	Rim sherd. Geometric and floral design on interior in black transfer-print.	3.0	160.0
5G44B5	3	Body sherd. Black transfer-print design.		
5G44D4	1	Body sherd. Black transfer-print design.		
5G44D7	1	Body sherd. Black transfer-print design.		
5G48A5	1	Rim sherd. Black printed design.	4.4	indet.
5G48D1	1	Rim sherd. Black printed design on interior and exterior.	2.7	90.0 rim.
5G48C1	3	Body sherds. Transfer-printed with green and red floral design.	7.0	indet.
5G48C1	1	Body sherd. Transfer-print in red over moulded floral design.	split.	
5G44D2	1	Base sherd. Vertical wall vessel with very thin bottom. Footstand around outer edge of base formed by indented bottom. Brown stripe around vessel wall.	4.0	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B5	2	Body sherds with traces of red transfer-print designs.	split.	
5G44D1	1	Body sherds with traces of red transfer-print designs.		
5G44D4	3	Body sherds with traces of red transfer-print designs.		
5G48A4	1	Rim sherd. Indeterminate moulded vessel with red print over moulded pattern.	5.0	indet.
5G48B2	1	Rim sherd. Red sponge print.	split.	indet.
5G48B7	1	Rim sherd. Brown floral transfer-print on interior. Red transfer design on exterior.	3.0	indet.
5G48B8	1	Base sherd. Trace of red design. Low rounded footring.	2.8	indet.
5G48C1	2	Body sherds. Trace of red printed design. One has impressed mark on back consisting of a "+" below which is a curved word, "DAV..PORT". An anchor appears below the word.		
5G48D2	5	Body sherds with red printed design.	3.4	
5G48F2	1	Body sherd. Red printed design.	5.1	
5G48D1	1	Rim sherd. Black printed design on interior.	2.8	120.0?
5G48D1	2	Body sherds. Black printed designs.	3.0	
5G48D2	2	Body sherds. Black printed designs.		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48F1	1	Rim sherd. Black geometric rim border on interior and exterior. Geometric design on exterior.	3.0	90.0
5G48A2	1	Rim sherd. Purplish black printed design.	4.3	
5G48A2	1	Body sherd. Purplish black printed design.		
5G48B1	1	Body sherd. Purplish black printed design.		
5G48C1	1	Rim sherd. Purple transfer-printed geometric and floral design.	2.8	100.0
5G44D9	1	Body sherd. Purple transfer-printed design similar to 5G48C1 above.	3.0	
5G44B1	1	Body sherd. Trace of green.		
5G44B8	2	Body sherds. Trace of green.		
5G44B7	1	Rim sherd. Trace of brown design.	2.8	140.0

Table 20. Sponge-Decorated and Flowing Blue Transfer-Print

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
Sponge-Decorated				
5G48B1	2	Body sherds. Sponge print design.	3.0	
5G48B2	1	Body sherd. Sponge print design.	4.3	
5G48B3	1	Body sherd. Sponge print design.	3.2	
5G48B3	1	Base. Bottom of small vessel with outflared rounded footring forming very low pedestal. Plain except for circular sponge print in centre of bottom. Footring is 6 mm high.	5.0	50.0 footring
5G48C3	1	Body sherd. Sponge print.	3.8	
5G57B1	1	Rim sherd. Exterior plain. Interior sponge print with rim stripe. Bowl form.	3.0	180.0 rim
Flowing Blue Printed				
5G48A2	1	Body sherd. Flowing blue design. Split.	indet.	
5G48A4	1	Knob fragment from vessel lid. Flowing blue. Octagonal shape.		27.0 by 30.0
5G48B1	1	Body sherd. Flowing blue design.	4.2	
5G48B2	1	Body sherd. Flowing blue design.		
5G48D1	1	Body sherd. Flowing blue design.		
5G57B1	1	Rim sherd. Flowing blue over a moulded pattern.	5.0	indet.
5G57B2	1	Base sherd. Flowing blue. Low rounded footring.	3.8	indet.

Table 21. Blue Hand-Painted Pearlware

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44D4	1	Rim sherd. Trace of blue rim stripe on interior. Exterior has a blue rim stripe and trace of blue floral (?) design.	2.4	120.0 rim
5G44B5	6	Body sherds. Traces of blue painted designs.		
5G44D1	1	Body sherd. Traces of blue painted designs.		
5G44D8	2	Body sherds. Traces of blue painted designs.		
5G48A5	4	Rim sherds. Traces of blue painted designs.	2.8	indet.
5G48B2	1	Rim sherd. Blue rim stripe and trace of blue floral design on interior. Exterior plain.	3.0	120.0 rim
5G48D8	1	Rim sherd. Trace of blue painted design. Split.	indet.	indet.
5G48E2	1	Rim sherd. Blue rim stripe on exterior. Blue rim stripe on interior, below which are interlocking curved lines.	3.0	120.0 ? rim
5G48B8	1	Base sherd. Fragment with low rounded footring. Trace of blue painted design on interior.	3.0	indet.
5G48B8	1	Rim. Trace of blue design.	indet.	indet.
5G48B2	1	Rim. Trace of blue design.	2.8	indet.
5G48B2	1	Rim. Blue rim stripe on interior.	2.6	indet.
5G48A2	1	Body sherd. Trace of blue painted design.		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48A5	11	Body sherds. Trace of blue painted design.		
5G48B1	1	Body sherd. Trace of blue painted design.		
5G48B2	2	Body sherds. Trace of blue painted design.		
5G48B3	1	Body sherd. Trace of blue painted design.		
5G48B5	1	Body sherd. Trace of blue painted design.		
5G48B8	5	Body sherds. Trace of blue painted design.		
5G48C2	1	Body sherd. Trace of blue painted design.		
5G48D1	2	Body sherds. Trace of blue painted design.		
5G48D1	1	Body sherd. Trace of Chinese style blue painted design.		
5G49B1	1	Body sherd. Trace of Chinese style blue painted design.		

Table 22. Polychrome

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44D4	1	Rim sherd. Fragment of bowl (?) rim with dark black rim stripe and segment of red flower on body.	3.0	160.0
5G44D3	1	Base sherd. Segment of low narrow footring.	3.1	indet.
5G44A1	2	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44B5	2	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44B6	2	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44D3	6	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44D4	2	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44D5	1	Body sherd. Traces of polychrome underglaze painting. Red, green and blue.		
5G44D7	3	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44F1	1	Body sherd. Traces of polychrome underglaze painting. Red, green and blue.		

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44F3	2	Body sherds. Traces of polychrome underglaze painting. Red, green and blue.		
5G44F4	1	Body sherd. Traces of polychrome underglaze painting. Red, green and blue.		
5G44F6	3	Body sherds, traces of brown and yellow polychrome.		
5G44D1	1	Rim sherd. Yellow flowers with blue outline.	3.8	indet.
5G48B1	1	Rim sherd. Trace of green and red floral design on interior of bowl form sherd. Sherd badly burned.	3.9	160.0
5G48B2	2	Rim sherds. Blue rim stripe around interior. Blue rim stripe around exterior; blue orange and green floral design on exterior. Bowl form?	2.8	160.0
5G48D1	1	Rim sherd. Straight vertical-walled vessel. Interior plain. Blue red and green floral design on exterior. Bowl?	3.4	160.0
5G48D1	1	Rim sherd. Exterior plain. Black rim stripe and trace of floral pattern on interior. Bowl form?	2.1	160.0
5G48D2	1	Rim sherd. Identical to 5G48D1.		
5G48D2	1	Rim sherd. Specimen from marly edge. Red stripe around rim. Trace of red floral design in marly.	2.9	260.0

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D2	1	Rim sherd. Blue, red and green floral design on exterior. Similar to 5G48D1 specimen above.	3.0	160.0
5G48D2	1	Rim sherd. Blue rim stripe on interior. Blue stripe and trace of green floral design on exterior.	3.0	indet.
5G48A5	1	Rim sherd. Bowl form. Exterior plain. Trace of floral design on interior.	2.8	indet.
5G48A2	2	Base fragments. Flat-bottomed vessel with low rounded footring. Exterior plain. Polychrome floral design on interior.	3.0	160.0 footring
5G48A5	1	Base fragment. Segment of vessel with red floral trace.	indet.	indet.
5G48B1	1	Base fragment with low rounded footring. Blue and green floral decoration on interior.	3.0	indet.
5G48A1	2	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48A3	8	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48A5	2	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G48A6	3	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48B1	6	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48B2	6	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48B8	1	Body sherd. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48C1	3	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48D1	11	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48D2	14	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48D3	1	Body sherd. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48F1	2	Body sherds. Polychrome floral patterns in red, green, blue, orange and black; varying combinations.		
5G48B5	1	Rim sherd. Segment of brown rim stripe on interior.	2.5	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G48B6	1	Rimsherd. Parallel brownish rim stripes with orange and blue dots between them on interior.	2.5	indet.
5G48B6	1	Base sherd. Fragment of base of small vessel with a low (4 mm) wedge-shaped footring. Brown and yellow floral design painted on white background on interior.	4.0	160.0 footring
5G48B1	1	Body sherd. Traces of brown and yellow painting.		
5G48B2	3	Body sherds. Traces of brown and yellow painting.		
5G48B8	1	Body sherd. Traces of brown and yellow painting. Floral design.		
5G48C1	1	Body sherd		
5G57B3	1	Rim sherd. Fragment of a flanged lip. Interior portion missing (split sherd). Exterior has dark brown stripe on flange and traces of brown, blue, green and orange floral decoration on vessel exterior.	indet.	120.0 rim
5G49A6	3	Body sherds. Fragments with traces of polychrome painting on white background; blue areas with black and purple design traces. Also traces of yellow on white background.	3.0	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B1	1	Rim sherd. Red rim stripe on interior. Red rim stripe on exterior. Large area of blue colour below the rim stripe on the exterior; design indeterminate.	3.0	90.0 rim
5G44D8	1	Rim fragment with red line below lip. Split.	indet.	indet.
5G48A1	1	Body sherd? with two-tone blue line.	indet.	
5G48A2	1	Rim sherd with red line on exterior; two green lines and one red line on interior.	indet.	
5G48B1	1	Body sherd with narrow green line.	3.0	
5G48B1	1	Rim sherd with trace of line on each surface; greenish grey.	3.8	indet.
5G48B21	1	Rim sherd with black line on interior surface.	4.0	indet.
5G48B2	1	Rim sherd with blue line on interior surface.	3.0	210.0
5G48B3	1	Rim sherd with red line on interior surface.	3.0	indet.
5G48B8	1	Body sherd with black line.	indet.	
5G48B6	1	Rim sherd with black line of interior and on exterior surface.	2.8	160.0?
5G57B4	1	Rim sherd with single black stripe on one surface.	2.0	indet.
5G48D2	1	Rim sherd with single red line on exterior.	indet.	indet.
5G48C1	1	Rim sherd with single red line on exterior.	3.4	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
4G44F6	1	Rim sherd. Split. Brown line on interior and on exterior.	4.0	260.0
5G48D1	1	Rim sherd. Split. Black line.	indet.	
5G48B2	1	Rim sherd. Red line, interior.	2.8	indet.
5G48D2	1	Rim sherd. Red line, interior.	3.0	indet.
5G48D1	1	Rim sherd. Red line, interior.	2.5	indet.
5G48D3	1	Rim sherd. Red line, interior.	3.0	
5G48B1	1	Body sherd. Red decoration.	3.9	
5G48B1	1	Body sherd. Black decoration.	4.2	
5G48B2	2	Body sherds. Black decoration.		

Table 23. Turner Ironstone

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G57B4	1	Base sherd from flat-bottomed vessel, probably a plate. Plain, except for impressed mark: Plumes and "Turner."	6	

Table 24. Transfer-Printed Ironstone, Miscellaneous

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
Ironstone: Blue Transfer-Print				
5G48A2	1	Blue transfer-print ironstone.	4.0	100.0
Ironstone: Black Transfer-Print				
5G48C1	1	Rim sherd.	3.7	indet.
5G48C1	1	Body sherd.	4.1	
Ironstone: Brown Transfer-Print				
5G44B5	1	Brown transfer-print, unknown maker.	4.4 thick.	

Table 25. Ironstone, Brown Transfer-Print; Dunn Bennett & Co.

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G57B2	1	Bottle fragment, marked. Bottom of flat-bottomed vessel, probably a plate. Maker's mark remnant with following: ...BLE, SEMI.	5.4	160.0 footring
5G57B2	1	Bottom fragment, marked. Bottom of flat-bottomed vessel, probably a plate, with concentric ring and footring. Brown transfer-print mark includes part of rectangular box beneath beehive although only a trace of the beehive is present. In the box is the word TRADE.... the remainder of the word (presumably Trademark) being obliterated by a chip. Beneath the box are the following: DUNN BENN..T & C., BURS..., and ENGLAND.	5.7	
5G57B2	1	Bottom fragment, marked. Segment of a flat-bottomed vessel with brown transfer-print mark. Mark includes a central beehive, with bees. In a rectangular box beneath the hive is the following: ..ADE MARK. Above the hive are the following: ......E and ...I CHINA. Below the box are the following: ...N BENNETT & CO., BURSLEM and ENGLAND.		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B2	1	Bottom fragment, marked. Bottom of smaller flat-bottomed vessel; a saucer? Brown transfer-print mark with trace of a beehive. Above the hive are the following: BRAMB.. and ...RIAL SE..		
5G57B2	17	Bottom sherds from flat-bottomed vessel, probably a plate. Exterior plain. Interior has brown transfer-print pattern; foliate.	4.5-6.1	160.0 footring
5G57B2	25	Rim sherds. Sherds from plate rims, marly edge with scalloped rim. Rim tapers, lip is rounded. Brown transfer-printed design on marly extends on to flat bottom.	3.0 lip 6.1 body	160.0 footring 260.0 rim 38.0 width of marly.
5G57B2	5	Rim sherds from smaller plate marly edge. Exterior plain. Brown transfer-print on interior.	3.0 lip 6.0 body	120.0 footring 200.0 rim 28.0 width of marly
5G57B2	2	Rim sherds. Vertical-sided cup with rounded lip. Brown transfer-print on exterior. Interior plain.	4.0	90.0 rim
5G57B2	1	Body sherd. Vertical-sided vessel, probably a cup. Brown transfer-print on exterior.	4.5	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G57B2	2	Bases. Base fragments of vertical-sided cups with low pedestal base. Brown transfer-print on exterior.	5.0	70.0 footring
5G57B2	5	Body sherds. Indeterminate form; rounded vessel body with transfer-print on exterior. Interior undecorated.	3.3-4.0	
5G57B2	4	Rim sherds. Fragments of a large open bowl. Interior plain. Transfer-print on exterior.	4.8	170.0 rim
5G57B2	2	Rim sherds. Fragments on open vessel, possibly a saucer. Exterior plain. Interior has brown transfer-print.	4.0	130.0 rim
5G57B2	1	Base fragment. Bottom of straight vessel wall with footring formed by wall and indented base. Form indeterminate. Exterior plain. Interior transfer-printed. Sherd burned and discoloured.	4.0	indet.
5G57B2	1	Body sherd. Plain interior. Transfer-printed on exterior. Exterior also has trace of a moulded design and fluting. Serving vessel ?	3.7	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G57B2	1	Rim sherd. Fragment of vessel of indeterminate form. One side has traces of moulded fluting and brown transfer-print. Other side plain. Possibly a serving bowl with a flaring mouth.	4.6	indet.
5G57B2	2	Rim sherds. Two sherds from a serving vessel with a slightly everted and scalloped rim. Transfer-printed on both interior and exterior. Exterior also has moulded fluted panels.	5.7	180.0 rim
5G57B2	1	Rim fragment. Segment of rim of a serving vessel. Inside of rim is flanged for a lid. Interior is plain; transfer-printed on exterior. Flaring everted rim and low globular body.	5.0	260.0 rim
5G57B2	11	Base sherds. Unmarked but shape of footring and concentric ridges indicate these are probably Dunn Bennett and Company sherds similar to those with brown transfer-print decoration, all from same excavation unit.	4.8-6.0	160.0 footring

Table 26. Stone Chinaware Company Ironstone

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G57B2	2	Base sherds from flat-bottomed vessel with Armorial mark and "Stone Chinaware Co., St. Johns, P.Q." in brown transfer-print. Mark is surrounded by faint raised moulded circle. One sherd is burned and discoloured.	4.5 5.4	
5G57B2	4	Base sherds. Shape of footring, glaze and faint moulded circle; these sherds are probably Stone Chinaware Co., St. John's P.Q.	5.2	160.0 footring

Table 27. Ironstone, White

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44A1	1	Rim fragment. Vertical-sided vessel, probably a cup. Smooth interior and exterior. Rounded lip.	4.8	90.0 rim
5G44B5	1	Rim fragment. Segment of a plate marly edge. Plain, smooth. Thinned rounded lip.	6.0	260.0 rim
5G44D3	1	Rim fragment. Segment of plate or bowl marly edge. Slightly concave in section. Thin moulded line encircles specimen 6 mm from rim. The lip is rounded.	4.5	260.0 rim
5G44D3	1	Rim fragment. Segment of plain plate marly edge. Lip flattened and rounded.	11.0+	260.0 rim
5G44D3	1	Rim fragment. Segment of a deep vessel, possibly a bowl. Lip is split.	7.6	indet.
5G44D3	1	Rim fragment, possibly a bowl. Lip split. Moulded encircling ridge.	indet.	indet.
5G44D3	1	Rim fragment. Large flared vessel; bowl? Lip rounded.	11.0	260.0 rim
5G44D3	1	Rim fragment. Small vertical-sided vessel. Indeterminate form, possibly a cup. Wide trailed depression encircles below rim. Lip rounded.	3.7	60.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D3	1	Rim fragment. Small segment of plate marly edge. Slightly scalloped rim. Thinned, slightly flared rounded lip. Top surface of marly has moulded diamond cross-hatched pattern.	3.0	260.0 rim
5G44B5	1	Rim fragment. Small segment of plate marly edge. Slightly scalloped rim. Thinned, slightly flared rounded lip. Top surface of marly has moulded diamond cross-hatched pattern.	4.0	indet.
5G44B5	1	Rim fragment. Small segment of marly (?) edge. Plain, rounded lip.	3.9	260.0 rim
5G44D3	1	Rim, wall and base fragment of a plain saucer; thin rounded lip. Low rounded footring.	3.0-	140.0 rim 90.0 footring
5G44D7	1	Rim fragment. Segment of flared marly? Rounded lip.	7.0	220.0 rim
5G44D7	1	Rim fragment from lid. Rim segment has moulded pattern of panels. Flange extends 7 mm. Flange and vessel lip rounded. Lip was dome-shaped.	6.0	200.0 rim 150.0 flange

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D8	1	Rim fragment. Segment of a plate marly edge with shallow moulded panels and encircling groove near rim. Rounded lip.		
5G44D9	2	Rim fragments from plate marly edge with moulded cross-hatched diamond pattern. Rounded lip. See previous specimen.	6.0	260.0 rim
5G44D9	2	Rim fragments from thick-edged flared vessel, probably a bowl. Narrow marly edge with moulded groove. Flattened, rounded lip.	3.3	130.0 rim
5G44B5	1	Footring and wall fragment. Segment of a low vessel probably a plate. Rounded footring with interior edge. Low.	10.5	260.0 rim
5G44D3	2	Footring fragments. Low rounded footring.	5.0	200.0 footring
5G44D3	1	Base fragment of flat-bottomed vessel. No footring.	6.0	200.0 footring
5G44F6	1	Footring fragment. Small, split sherd.	5.4	120.0 base
5G44A1	2	Body sherds	indet.	indet.
5G44D3	12	Body sherds		
5G44D5	1	Body sherd		
5G44D8	1	Body sherd		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G44D9	5	Body sherds		
5G44F1	1	Body sherd		
5G44A1	2	Fragments of footrings. Low rounded footring.		
5G48A2	1	Fragment of low rounded footring. Chip.	5.3	100.0 footring
5G48A3	1	Fragment of footring. Low rounded footring.	-	indet.
5G48A3	1	Fragment of low rounded footring.	4.9	160.0 footring
5G48A3	1	Fragment of vessel base. Pedestal-like footring is possible; specimen badly chipped and split.	5.0	100.0 footring
5G48C1	3	Fragments of low rounded footrings. Small chipped specimens.	5.1	indet.
5G48C1	1	Base fragment. Low rounded footring.	-	indet.
5G48C1	1	Base fragment. Low angular footring and indented base.	4.6	140.0 footring
5G48D2	1	Base fragment. Rounded footring. Probably from a small diameter vessel; cup?	indet.	indet.
5G48D2	1	Base fragment. Angular footring. Moulded encircling ridge around bottom above footring.	6.1	40.0 footring
5G48D3	1	Footring chip.	7.0	80.0 footring
			-	indet.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A2	1	Handle fragment. Chipped and split segment of a strap handle.	-	20.7 wide
5G48A4	1	Handle fragment (?). Small segment of a moulded handle?	indet.	
5G48C3	1	Handle fragment. Small segment of vessel wall with attached handle terminal.	4.2	110.0 handle width
5G48A3	1	Body sherd with trace of moulded design.		
5G48B2	2	Body sherd chips with traces of moulded designs.		
5G48C1	1	Body sherd with trace of moulded design.		
5G48C2	1	Body sherd with trace of moulded design.		
5G48A2	1	Rim fragment. Segment of plate marly edge. Rounded lip.	5.0	260.0 rim
5G48A2	1	Rim fragment. Segment of marly edge.	3.5	indet.
5G48A2	1	Rim fragment. Slightly everted lip segment of vessel of indeterminate form. Lip rounded.	3.6	120.0? rim
5G48A3	3	Rim fragments. Indeterminate form; one slightly everted. Rounded lips.	3.7	100.0 rim
5G48B2	1	Rim fragment. Split sherd; bottom side of marly edge.	indet.	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48B2	2	Rim fragments. Split and chipped segments of marly edges with traces of moulded foliate (?) pattern. Lips rounded.		
5G48C1	2	Rim fragments. Segments of marly edge, plain. Lip rounded with sharp edge on marly side.	5.3	indet.
5G48C1	1	Rim fragment. Segment of plain marly edge with rounded lip.	5.0	260.0 rim
5G48C1	4	Rim fragments. Split and chipped sections.	5.0	260.0 rim
5G48C1	8	Rim fragments. Segments of marly edge with traces of a moulded foliate design and groove below rim. Rounded lip.	indet.	260.0 rim
5G48C1	1	Rim fragment. Bowl form with plain rounded lip.	7.0	260.0 rim
5G48C1	1	Rim fragment. Segment of a vertical sided vessel with slightly everted rim. Moulded grooves on exterior. Rounded lip.	4.2	160.0 rim
5G48D1	1	Rim fragment. Slightly everted rim. Exterior of nearly vertical sided vessel with traces of moulded design. Rounded lip.	4.5	80.0 rim
5G48A1	7	Body sherds	4.0	80.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G48A2	19	Body sherds		
5G48A3	40	Body sherds		
5G48A4	5	Body sherds		
5G48A5	17	Body sherds		
5G48B1	1	Body sherd		
5G48B2	12	Body sherds		
5G48C1	74	Body sherds		
5G48C2	1	Body sherds		
5G48D1	4	Body sherd		
5G48D3	2	Body sherds		
5G57B2	1	Body sherds		
		Rim and footring fragment of vessel. Saucer. Low rounded footring. Everted rounded lip. Moulded foliate design on interior; also fluted depressed central circle for cup.	5.0	40.0 footring 170.0 rim
5G57B1	1	Marly fragment with trace of moulded panels. Split sherd.	-	indet.
5G57B2	6	Rim fragments. Probably saucer fragments. Traces of moulded foliate designs on interior.	5.0	170.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B3	1	Rim fragment. Segment of slightly concave marly edge. Plain. Thinned rounded lip.	8.0	260.0 rim
5G57B2	1	Rim fragment. Segment of slightly concave marly edge. Slightly curved rounded lip. Plain.	4.6	indet.
5G57B2	1	Rim fragment. Vertical sided vessel, probably a cup. Plain, with slightly raised ridge around exterior of rim. Rounded lip.	5.5	80.0 rim
5G57B2	3	Rim sherds. Three sherds, probably from single vessel. Slightly concave and simply paneled moulded marly edge. Rounded lip.	6.7	260.0 rim
5G57B2	2	Handles. One complete, one fragment. Small segment of rounded lip and vessel wall of vertical sided cup with attached loop handle. Sides of handle moulded design of concentric triangles. Vessel wall has traces of simple vertical moulded panels similar to rims above.		10.0 handle width 18.0 handle hole diameter 50.0 overall handle length
5G57B2	1	Rim fragment. Segment of rim marly edge, concave with moulded scallops at plate basin edge; moulded panels and ridges around rim in tapestry-like pattern. Burned and discoloured.	6.0	260.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G57B2	2	Rim fragments. Segments of plate marly edges with traces of moulded designs. Badly chipped.	-	260.0 rim
5G57B2	6	Fragments of marly edges. Burned and discoloured. Plain.	5.0	260.0 rim
5G57B2	2	Rim fragments of open bowl forms. Burned and discoloured. Plain.	4.1 5.7	160.0 rim indet.
5G57B2	1	Rim fragment. Vertical-sided cup with plain rounded rim. Lip rounded.	5.0	90.0 rim
5G57B2	1	Rim fragment of vertical-sided cup. Moulded ridge around exterior rim. Lip rounded.	5.2	100.0 rim
5G57B2	1	Rim fragment. Plate marly edge with moulded groove around rim. Marly concave.	5.6	260.0 rim
5G57B2	3	Rim fragments. Three different vessels. Probably plates.	-	indet.
5G57B2	1	Rim fragment. Trace of moulded design.	-	indet.
5G57B2	1	Rim fragment. Saucer? Rounded everted lip.	5.1	indet.
5G57B2	1	Rim and footring fragment. Saucer. Plain simple moulded panels on interior; everted rounded lip.	5.5	40.0 footring 140.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B2	1	Rim and base fragment of vertical-sided vessel with rounded bottom. Cup, rounded lip, concave base. Rounded footring, low pedestal-like form.	5.0	50.0 footring 80.0 rim
5G57B2	1	Rim sherd. Vertical-sided vessel. Cup. Moulded ridge around rim exterior. Rounded lip.	5.0	100.0 rim
5G57B2	1	Rim sherd. Vertical-sided cup. Moulded ridge around rim and faint moulded panels on side. Rounded lip.	4.9	80.0 rim
5G57B2	1	Base. Vertical-sided cup with low pedestal footring. Thin bottom.	4.1 wall 2.0 bot.	50.0 footring
5G57B2	1	Base. Vertical-sided cup with vertical moulded panels or fluting. Low pedestal-like base.	4.7	50.0 footring
5G57B2	2	Bases. Pedestal footring bases of cups.	4.0	indet.
5G57B2	3	Bases. Pedestal footring bases of cups. Badly burned.	4.5	indet.
5G57B2	9	Base fragments. Footring fragments of plates having low rounded footrings. Badly burned and discoloured.	4.0-6.2	
5G57B2	1	Base fragment with low rounded footring. Split sherd from plate.	indet.	160.0 footring

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G57B2	2	Base fragments from saucer. Interior has faint fluting and depressed circle in bottom.	4.0	80.0 footring
5G57B2	1	Base fragment from thick vessel with low rounded footring.	9.4	160.0 footring
5G57B2	1	Footring fragment. Segment of a large thick footring from pedestal (low) base of large vessel.	-	100.0 footring
5G57B2	1	Base fragment. Angled rounded footring vessel with thin walls. Bowl?	2.0 wall 3.0 base	100.0 footring
5G57B4	2	Bottom fragments of flat-bottomed plates without footrings. Two different vessels.	4.0 6.2	160.0 footring bottom circle indet.
5G57B2	3	Body sherds. Three fragments of moulded fluted or paneled vertical wall vessels. Cups?		
5G57B2	1	Body sherd with trace of moulded foliate? design.	3.8	
5G57B2	1	Rim and handle fragment. Section of cup rim with fragment of attached loop handle.	4.0	indet.
5G57A1	3	Body sherds		
5G57B2	58	Body sherds		
5G57B3	1	Body sherd		
5G57B4		Body sherd		

Table 28. Banded Yellow Ware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48C1	2	Body sherds. Plain interior with white colour. Exterior yellow; moulded in simulated basket weave.	5.0	
5G44D7	1	Body sherd. Exterior has six narrow white slip lines in band around body.	4.8	
5G48A3	1	Body sherd. Exterior has eight narrow white slip bands.	4.0	
5G48B1	1	Body sherd. Trace of white slipped annular line.	4.6	
5G48B2	1	Body sherd. Trace of white slipped annular line.	split	
5G48D1	1	Body sherd. Trace of white slipped annular lines.	split	
5G48B1	1	Body sherd. Interior white coloured glaze. Exterior buff with trace of brown glazed area.	4.0	
5G44D9	1	Body sherd. Blue sponge decoration in panel.	split	
5G44D9	1	Rim sherd. Buff exterior with white panel on which blue sponge print traces are present.	4.0	
5G48B1	1	Body sherd. Traces of blue sponge print.	split	
5G48B3	1	Body sherd. Traces of blue sponge print.		
5G44A1	1	Body sherd. Deep yellow buff glazed, plain.		
5G44B5	3	Body sherds. Deep yellow buff glazed, plain.		
5G44D3	2	Body sherds. Deep yellow buff glazed, plain.		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D7	1	Body sherd. Deep yellow buff glazed, plain.		
5G44D9	1	Body sherd. Deep yellow buff glazed, plain.		
5G57B2	2	Body sherds. Deep yellow buff glazed, plain.		
5G45A1	1	Split rim sherd. Straight vessel wall.	split	
5G48C1	1	Base sherd. Segment of a base with a high (8 mm) flared and rounded footring.	4.0	90.0 footring
5G48A1	1	Body sherd		
5G48A2	1	Body sherd		
5G48A4	1	Body sherd		
5G48A5	1	Body sherd		
5G48B1	13	Body sherds		
5G48B2	3	Body sherds		
5G48C1	7	Body sherds		
5G48D1	12	Body sherds		
5G48D2	2	Body sherds		

Table 29. Annular Decorated Pearlware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D4	2	Body sherds. Globular vessel with slightly flared mouth. Rounded lip. The interior is plain. The exterior is decorated with bands of brown, yellow and dark brown. The latter colours are filled in engine-turned grooves and on the surface of the vessel the grooves can be felt. Colours are yellowish (colour of the ground); greyish brown (2.5YR 3/2) and brownish orange (5YR 5/8).	4.0	140.0 mouth rim
5G44D8	3	Body sherds. Globular vessel with slightly flared mouth. Rounded lip. The interior is plain. The exterior is decorated with bands of brown, yellow and dark brown. The latter colours are filled in engine-turned grooves and on the surface of the vessel the grooves can be felt. Colours are yellowish (colour of the ground); greyish brown (2.5YR 3/2) and brownish orange (5YR 5/8).		
5G44A1	2	Body sherds. Brown and white annular decoration. Split sherds. Probably similar to 5G44D3 vessel.	indet.	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G44D1	1	Body sherd. Brown and white annular decoration with grey background colour. See 5G44D3 vessel. Split.	indet.	
5G44D3	2	Body sherds. Brown and white annular decoration with grey background colour. See 5G44D3 vessel. Split.		
5G44D3	1	Rim sherd. Dark greyisn brown rings alternate with white to form annular decoration. Grey background colour.	4.0	200.0
5G44D4	1	Body sherd, probably same vessel as 5G44D3.	indet.	
5G48A1	1	Rim sherd. Small sherd from straight-walled rim with greyish brown and brownish orange annular decoration.	3.5	indet.
5G48A2	1	Body sherd. Two greyish brown rings on white.	3.7	
5G48B1	2	Body sherds. Greyish brown and brownish orange annular decoration. Near base ? of vessel is a broad concave groove.	5.0	
5G48B2	1	Body sherd. Greyish brown and brownish orange annular.	3.0	
5G48D2	2	Body sherds. Brownish orange palpable rings on white.	5.1	
5G48B1	1	Body sherd with greyish brown rings.	6.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
5G48D1	1	Rim sherd. Greyish brown rings, grey background with traces of brownish and blue decoration painted on the grey.	3.0	indet.
5G48A3	1	Body sherd. Greyish brown rings and blue (5PB 5/11) ring or background colour.	3.7	
5G48D2	1	Body sherd. Greyish brown rings and blue (5PB 5/11) ring or background colour.		
5G48D2	1	Body sherd. Greyish brown rings and blue (5PB 5/11) ring or background colour.		
5G48B3	1	Rim and body fragment. Section of a slightly curved bowl (?) with rounded lip. Near base of vessel wall there is a broad concave groove. Ground colour is white. Two wide bands of greyish brown alternate with pairs of very pale purplish blue (5PB 8/5) which are palpable ridges.	3.6	200.0 rim
5G48D1	1	Rim sherd. Straight-walled vessel, rounded lip. Two very pale blue lines on white ground below lip; body is greyish brown.	3.0	180.0
5G48D1	3	Body sherds from above vessel.	4.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A5	1	Body sherd similar to above? Greyish brown.		
5G48B2	1	Rim sherd. Straight-walled vessel. Brown band around rim. Series of moulded fine ridges, coloured very light blue below rim band. Below ridges ground is greyish brown with curvilinear palpable yellowish white lines.	3.0	
5G44A2	1	Body sherd. Traces of polychrome painted band.	3.8	160.0
5G44D4	1	Body sherd. Traces of polychrome painted band.	indet.	
5G44D5	1	Body sherd. Traces of polychrome painted band.		
5G44B5	8	Body sherds. Blue painted grooves, brown background with slip curvilinear yellowish lines. Similar to 5G48B2 above.		
5G48B1	1	Rim sherd. Turned grooves with green colour and blue band around rim.	3.9	
5G44D4	4	Body sherds. Turned grooves with green colour and blue band around rim. Brown band below the green, turned grooves on one sherd.	3.5	indet.
			4.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D11	1	Body sherd. Fragment has trace of spout edge? Brownish orange background with dark brown splotches. Two parallel grooves of white colour of interior and possible spout. Sprig moulded flower segment, green glazed.	4.0	
5G48B1	1	Body sherd. Similar to above rim. Split.	indet.	
5G48D1	2	Body sherds. Similar to 5G48B2 rim above.	3.8	
5G48D2	7	Body sherds, similar to 5G48B2 above. One has area of grey background below the brown and yellow curvilinear decorated area.	4.5	
5G48A5	2	Body sherds. Brownish orange background with trace of painted band; similar to 5G48B2 described below.?	4.6	
5G48B2	1	Body sherd. Brownish orange background colour with band painted in blue, white and brown; curvilinear and irregular pattern.	3.0	
5G48D2	4	Body sherds. Brownish orange and greyish brown background colour with curvilinear parallel lines in white, blue and/or brown.	3.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D4	1	Body sherd with blue background colour and traces of white and brown painting.	4.0	
5G44A2	1	Body sherd. Light blue annular decoration.	indet.	
5G44B5	1	Body sherd. Light blue annular decoration.		
5G44D1	2	Body sherds. Light blue annular decoration.	4.0	
5G44D1	1	Body sherd. Light blue annular decoration.	3.0	indet.
5G44D3	2	Body sherds. Light blue annular decoration.	5.0	
5G44D4	1	Body sherd. Light blue annular decoration	4.8	
5G44D7	1	Body sherd. Light blue annular decoration.	indet.	
5G44D7	1	Rim sherd. Light blue annular decoration.		
5G44D8	2	Body sherds. Blue annular decorated.	indet.	
5G44D9	1	Body sherd. Blue annular decorated.	4.4	
5G48B1	2	Body sherds. Blue annular decorated.	4.0	
5G48C1	2	Body sherds. Blue annular decorated.	indet.	
5G48D1	2	Body sherds. Blue annular decorated.	indet.	
5G49A6	1	Body sherd. Blue annular decorated.	indet.	
5G44B9	1	Body sherd. Greenish yellow annular decoration.	indet.	
5G44D10	1	Body sherd. Greenish yellow annular decoration.	4.1	
5G48B2	1	Rim sherd. Greenish yellow annular decoration.	3.7	indet.

Table 30. Mocha Ware

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G44B5	2	Body sherds with trace of mocha design and traces of white and trace of greyish brown (7.5YR 3/2) rings.	3.7	
5G44D3	1	Body sherds with trace of mocha design and traces of white and trace of greyish brown (7.5YR 3/2) rings.	5.0	
5G44D8	1	Rim sherd with mocha design and white and brown annular decoration.	3.7	140.0 rim
5G48B1	1	Body sherd with trace of mocha decoration.	3.9	
5G48D1	1	Body sherd with trace of mocha decoration.	3.9	
5G44D3	1	Body sherd with trace of mocha design and very pale blue (2.5PB 8/5) ring.	3.5	
5G48D1	1	Body sherd with traces of a diffuse mocha design and white curvilinear decoration. Orange brown and yellowish background, in bands?	4.1	

Table 31. Brown Lustrous Earthenware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B2	1	Spout (?) fragment	3.0 thick	
5G48C1	1	Body sherd	4.7 thick	
5G48D1	3	Body sherds. One has a single line of white slipped decoration.	4.0 thick 2.4	
5G48D3	1	Body sherd		
Brown Glazed Earthenware				
5G48B2	1	Body sherd. Panels moulded on interior.	4.6 thick	
5G48B3	1	Body sherd. Ridges on exterior.	5.0 thick	

Table 32. Cyples Ware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A5	1	Body sherd	4.0 thick	
5G48B2	2	Body sherd	split	
5G48C1	1	Rim sherd. Spout fragment from teapot. Has moulded row of dots just below the rim.	3.0 thick	

Table 33. Burned Earthenware Sherds

Provenience Excavation lot	Number	Description
5G44B5	5	Body sherds
5G44B6	1	Body sherd
5G44D1	2	Body sherds
5G44D3	1	Body sherd
5G44D4	2	Body sherds
5G48A3	1	Body sherd
5G48A4	1	Body sherd
5G48A5	3	Body sherds
5G48B1	4	Body sherds
5G48B2	8	Body sherds
5G48B3	3	Body sherds
5G48B8	1	Body sherd
5G48C1	10	Body sherds
5G48C2	1	Body sherd
5G48D1	2	Body sherds
5G48D2	3	Body sherds
5G48D3	2	Body sherds
5G48E2	1	Body sherd
5G49B1	1	Body sherd
5G49B2	1	Body sherd
5G57A1	2	Body sherds
5G57B1	1	Body sherd
5G57B3	2	Body sherds

Table 34. Miscellaneous Stoneware, 18th-Century

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
Brown Stoneware, 18th-Century				
5G48B3	1	Lid		7.0 est. flange
5G49B1	1	Body sherd	4.9	
5G49B1	1	Base	6.3-7.1	110.0 est. base
5G48C3	1	Body sherd	6.6	
French Stoneware				
5G48F1	1	Body sherd	5.9	
Westerwald Grey Salt-glazed Stoneware				
5G49A4	1	Chamber pot rim	8.0	180.0

Table 35. White Salt-glazed Stoneware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
White Salt-glazed Stoneware, Plain				
5G45A1	1	Plain white salt-glazed body sherd	3.0	
5G57B5	1	Plain white salt-glazed body sherd	1.9	
5G57B5	1	Plain white salt-glazed rim sherd. Thin-walled vessel with slightly everted rounded lip.	2.0	140.0 rim
5G44D3	1	Plain white salt-glazed body sherd. This large flat sherd is probably from the bottom of a plate.	4.2	
White Salt-glazed Stoneware Plate				
5G44D3	1	Moulded white salt-glazed rim sherd. Fragment of a plate marly (?) with a moulded edge along the rim consisting of a groove and twisted edge design. Shape of the fragment suggests a scalloped form.	4.3	
White Salt-glazed, Moulded				
5G44D5	1	Moulded white salt-glazed body and rim sherd. Sherd includes small part of flat base, edge of plate and marly but missing the rim. Near the rim is a trace of a moulded design, probably a groove similar to the specimen described above.	4.4	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
White Salt-glazed, Moulded (continued)				
5G48B1	1	Moulded white salt-glazed rim sherd. A fragment of a plate marly with a groove and twisted edge design. Shape of the fragment suggests a scalloped form.	4.0	
5G48B5	1	Handle fragment, moulded white salt-glaze. Handle is angular in outline and oval in cross-sections with encircling moulded cordons. Back of handle is decorated with stippled or sponged blue colour.	4.9	8.5 handle

Table 36. Farrar (?) Stoneware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A1	1	Body sherd. Exterior light orange. Interior moderate reddish brown.	9.7	
5G48A3	1	Body sherd. Exterior light orange. Interior moderate reddish brown.		
5G48B1	2	Body sherds. Exterior light orange. Interior moderate reddish brown. One is a chip.	7.8	
5G48B2	1	Body sherd. Exterior light orange. Interior moderate reddish brown.	7.1	
5G48C1	1	Body sherd. Exterior light orange. Interior moderate reddish brown.	4.4	
5G48C1	3	Body sherds. Exterior light orange. Interior moderate reddish brown.	8.4	
5G48C1	1	Base fragment of jug with flared wall.	10.6	180.0
5G48D1	3	Body sherds. Same colour as above.	6.9-7.2	
5G48D1	1	Body sherd. Same colour as above.	8.1	
5G48D2	9	Body sherds. Same colour as above.	6.3-9.3	
5G48D2	1	Base sherd with flared wall.	11.3	180.0
5G48D2	1	Shoulder sherd with impressed mark: E.L. & G.W....... Burlingto....3	9.0	

Table 37. "Albany Slip" Stoneware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A1	1	Small body sherd from vessel with sharp-edged sloping shoulder. Exterior is grey and mottled. Interior slip strong brown.		
5G48A1	1	Body sherd, grey exterior. Interior moderate brown.	6.7	
5G48A3	1	Body sherd, exterior light orange.	5.4	
5G48B1	1	Base and body fragment of cylindrical bottle (?). Grey exterior, greyish brown interior.	1.0	
5G48B1	1	Body sherd, grey exterior, moderate brown interior.	6.6	64.0
5G48B2	1	Body sherd, exterior grey, interior brown.	7.8	
5G48B2	1	Body sherd, exterior grey mottled.	6.0	
5G48C1	2	Body sherds; exterior grey mottled. Interior moderate brown. One is shoulder sherd with rounded edge and sloping shoulder, probably part of a bottle.	8.7	
5G48C1	2	Body sherds, grey exterior.	7.1-9.6	
5G44D3	1	Body sherd from cylindrical bottle? Exterior grey.	5.0, 8.7	
5G57A1	3	Body sherds	6.0	
5G57B2	9	Body sherds	5.0-6.7	
5G57B2	1	Body sherd, grooved shoulder.	5.0-7.0	
5G57B2	3	Flat-bottomed sherds, exterior unglazed.	7.5	
5G57B2	1	Base and wall fragment bottom unglazed. Vessel of cylindrical, vertical wall form.	7.0	
			7.7	210.0

Table 38. Brown Stoneware, 19th-Century

Provenience Excavation lot	Number	Description	Colour		Dimensions (mm)	
			Exterior	Interior	Thickness	Estimated Diameter
Bottles						
5G48A1	1	Rim sherd from wide mouth blacking bottle.	10R 3/3	10R 3/4	7.2	60.0
5G48A4	1	Complete rim, wide mouth blacking bottle. Rim height: 34 mm.	5YR 4/5	5YR 4/5	7.4-8.7	57.0
5G48A5	1	Rim sherd, wide mouth blacking bottle.	2.5Y4	2.5Y	4.6-8.7	60.0
5G48A5	1	Rim sherd, wide mouth blacking bottle.	7.5YR 4/5	2.5Y	6.3-7.6	60.0
5G48B1	1	Rim sherd, wide mouth blacking bottle.	10YR 4/4	Grey	5.3-7.8	50.0
5G48B1	1	Rim sherd, wide mouth blacking bottle. Rim height: 40 mm.	5YR 4/5	5YR	4.4-7.9	54.0
5G48B2	1	Rim sherd, wide mouth blacking bottle. Rim height: 37 mm.	10YR 5/6	Grey	5.5-8.4	60.0
5G48B2	1	Rim sherd, wide mouth blacking bottle.	Grey	Grey	3.6-8.8	50.0
5G48B2	1	Neck sherd, wide mouth blacking bottle.	Grey	Grey	5.6	
5G48B2	1	Rim sherd, wide mouth blacking bottle.	10YR 5/6	Grey	7.6	60.0
5G48B5	1	Rim sherd, wide mouth blacking bottle. Includes part of shoulder. Rim height: 38 mm.	10YR 4/4		5.5-7.5	60.0
5G48C1	1	Rim sherd, wide mouth blacking bottle.	Grey	Grey	8.0	60.0

Provenience Excavation lot	Number	Description	Colour Exterior	Interior	Dimensions (mm) Thickness	Estimated Diameter
Bottles						
5G48D1	1	Rim sherd, wide mouth blacking bottle.	7.5YR 4/5	7.5YR 4/5	9.0	60.0
5G48D2	1	Rim sherd, wide mouth blacking bottle.	2.5Y 6/8	2.5Y 6/8	8.5	60.0
5G44B8	1	Rim sherd, wide mouth blacking bottle.	5YR 4/5	5YR 4/5	8.9	
5G44B6	1	Rim and shoulder fragment. Rim is everted roll above a very short neck. Sloping upper body and angular shoulder. Probably an ink bottle.	7.5YR 4/5	Grey	4.9	20.0 rim 50.0 body
5G48D2	1	Rim sherd. Ginger beer bottle rim. Collar-like forming string rim.	2.5YR 3/3	2.5YR 3/3	6.7	40.0
5G48D3	1	Rim sherd. Ginger beer bottle rim. Collar-like forming string rim.	Grey	Grey	4.9 body 7.0 rim	35.0
5G48B1	1	Base fragment. Complete base section from blacking, ink or beer bottle. Cylindrical walls, edge of wall beveled at bottom. Base of bottle slightly concave. Spiral swirled throwing marks on interior. Interior unglazed.	7.5YR 4/5	Grey	5.0 base 7.9 body	72.0

Provenience Excavation lot	Number	Description	Colour Exterior	Colour Interior	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
Bottles						
5G48B2	1	Base fragment of brown stoneware bottle. Slightly flared rather than beveled at the bottom; concave bottom. Interior unglazed.	5YR 4/5	Grey	10.5 base	80.0
5G48D1	1	Base fragment of stoneware bottle. Beveled at bottom edge. Concave bottom Interior unglazed. Exterior light yellow-red.	5YR	Grey	7.0 body 6.0 base	80.0
5G48B2	1	Base fragment of stoneware vessel. Bottom edge slightly beveled, bottom concave. Interior truncated conical form at bottom. Interior unglazed. Exterior mottled.	5YR 4/5	Grey	7.8 body 4.0 base	60.0
5G48B1	1	Base fragment. Part of beveled base.	10YR 4/4	Grey	.1	
5G48B1	1	Base fragment. Part of beveled base. Exterior is brownish tinted grey.	Grey	Grey	8.0	
5G57B2	1	Base fragment. Part of beveled base.	7.5YR 4/5	Grey	8.1	

Provenience Excavation lot	Number	Description	Colour Exterior	Interior	Dimensions (mm) Thickness	Estimated Diameter
Bottles						
5G44D5	1	Body sherd, shoulder fragment. Small segment of sharp shoulder. Fine trailed line encircles body 17 mm below shoulder line. Interior unglazed.	10YR 5/6	Grey	5.5	
5G48B1	1	Body sherd, shoulder fragment. Segment with sharp edged shoulder. Interior unglazed.	5YR 4/5	Grey	5.0	
5G48B1	2	Body sherds, shoulder fragments, sharp edged shoulder. Interior unglazed.	7.5YR 4/5	Grey	4.5 5.5	
5G48D1	1	Body sherd, shoulder fragment, sharp edged shoulder. Interior unglazed but tinged brown.	5YR 4/5	Brown-grey	4.6	
5G57B2	1	Body sherd, shoulder fragment sharp-edged shoulder, rounded and chipped from use. Exterior mottled; interior unglazed.	5YR 3/3	Grey	5.0	

Provenience Excavation lot	Number	Description	Colour		Dimensions (mm)	
			Exterior	Interior	Thickness	Estimated Diameter
Bottles						
5G44D1	1	Base fragment of stoneware blacking bottle. Bottom edge beveled; bottom concave. Interior unglazed. Letters reading "Blacking Bottle" are impressed on side. Letters 7 mm high.	5YR 4/5	Grey	7.7 body 5.0 base	70.0
5G44E2	1	Base and portion of body of a stoneware blacking bottle. One body sherd (5G45E2) bears part of an impressed W. Bottom edge beveled. Interior unglazed. Exterior glaze ranges from grey to brown. Base is not perfectly circular. Crossmend.	7.5YR	Grey	7.4 body	73.0 to 74.6
5G48B1	1	Base sherd from stoneware vessel. Specimen has cylindrical walls, slightly rounded at bottom edge. Bottom of base is flat. Fine throwing rings on interior. Reddish grey paste. Interior and exterior glazed; may not be a bottle.	10YR 4/4		4.8	50.0

Provenience Excavation lot	Number	Description	Colour Exterior	Interior	Dimensions (mm) Thickness	Estimated Diameter
Bottles						
5G48D1	1	Body sherd. Curved fragment of shoulder.	2.5Y 5/5	Grey	4.7	
5G48F1	1	Body sherd. Curved fragment of shoulder.	2.5Y 6/8	Grey	5.1	
5G35M1	1	Body sherd. Curved fragment of shoulder. Both interior and exterior glazed.	5YR 4/5	5YR 5/8	5.0	
5G44D1	1	Body sherd	10YR 6/8	Grey	7.8	
5G44D4	1	Body sherd. Interior has traces of greenish grey glaze but is mostly unglazed.	7.5YR 5/7	Grey	5.3	
5G48A1	1	Body sherd. Chip.	-	-	-	
5G48A4	1	Body sherd. Exterior mottled. Interior also glazed.	Grey+ 7.5YR 5/7	Brownish grey	6.8	
5G48B1	1	Body sherd. Mottled.	7.5YR 5/7	Grey	5.1	
5G48C1	1	Body sherd. Interior has smooth, clear glaze.	7.5YR 5/7	Grey	4.9	
5G48D1	2	Body sherds. Interior and exterior glazed.	7.5YR 5/7	Grey	6.3	
5G57B1	1	Body sherd.	7.5YR 4/5	Grey	5.5	
5G57B2	2	Body sherds. Similar to specimen from 5G57B1.	7.5YR 4/5	Grey	4.9-8.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter Rim	 Base	Vessel Height
Containers						
5G44F3	1	Base of vessel			43.0	
5G48A5	1	Nearly complete vessel.	6.0	79.0	44.0	87.0
5G48C1	1	Base and rim portion of vessel. Interior unglazed.	5.0	80.0	38.0	82.0
5G48D2	1	Base and rim portion of vessel. Interior unglazed.	5.4	80.0	40.0	81.6
5G48D2	1	Base and rim fragment of drinking vessel. Interior unglazed. Exterior has eight fine concentric lines around body.	4.9	80.0	40.0	82.4
5G48D2	1	Base and half of body and rim of drinking vessel. Interior unglazed.	5.0	75.5	40.0	81.0
5G48A2	1	Base of vessel			35.5	
5G48A3	1	Base of vessel			43.0	
5G48A4	1	Base of vessel			40.0	
5G48B1	1	Base of vessel			40.0	
5G48B1	1	Base fragment			50.0	
5G48B2	1	Base fragment			40.0	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter Rim	Base	Vessel Height
Containers						
5G48B3	1	Base fragment			40.0	
5G48B3	1	Base fragment			37.0	
5G48B3	1	Base fragment			40.0	
5G48C1	1	Base of vessel			39.0	
5G48C2	1	Base of vessel			38.0	
5G48D1	1	Base fragment			40.0	
5G48D1	1	Base of vessel			37.0	
5G48D1	1	Base of vessel			41.0	
5G48D2	1	Base of vessel			37.0	
5G44D1	1	Rim fragment	6.0	indet.		
5G44D3	1	Rim fragment	5.7	indet.		
5G48A1	1	Rim fragment	4.6	80.0		
5G48A5	2	Rim fragments	5.0	80.0		
5G48B1	1	Rim fragment	5.1	indet.		
5G48B1	5	Rim fragments of five different vessels	5.0-6.0	80.0		
5G48B1	2	Rim fragments of two different vessels	4.7-6.4	80.0		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter Rim	 Base	Vessel Height
Containers						
5G48B1	1	Rim fragment	5.1	indet.		
5G48B1	1	Rim fragment	5.4	75.0		
5G48B2	2	Rim fragments; two different vessels.	5.0	80.0		
5G48B2	3	Rim fragments; three different vessels.	5.3	80.0		
5G48B2	1	Rim fragment	5.0	70.0		
5G48B2	1	Rim fragment	6.4	80.0		
5G48B3	1	Rim fragment	6.5	80.0		
5G48B3	1	Rim fragment	5.9	80.0		
5G48C1	2	Rim fragments; two different vessels.	5.7	80.0		
5G48C1	6	Rim fragments; six different vessels.	5.2	80.0		
5G48C1	1	Rim fragment	5.1	70.0		
5G48C1	1	Rim fragment	4.8	78.0		
5G48C2	1	Rim fragment	5.0	80.0		
5G48D1	1	Rim fragment	5.0	indet.		
5G48D1	5	Rim fragments; five different vessels.	4.6-5.6	80.0		
5G48D1	2	Rim fragments; two different vessels.	5.1-5.8	indet.		
5G48D1	4	Rim fragments; four different vessels.	5.0-5.3	80.0		
5G48D1	2	Rim fragments; two different vessels.	5.5	80.0		

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter Rim	Estimated Diameter Base	Vessel Height
Containers						
5G48D2	4	Rim fragments; four different vessels.	4.9-5.4	80.0		
5G48D2	3	Rim fragments, probably one vessel.	5.7	80.0		
5G48D2	4	Rim fragments; four different vessels.	5.0-6.0	80.0		
5G48D2	3	Rim fragments; three different vessels.	5.0	80.0		
5G48D2	4	Rim fragments; four different vessels.	5.0	80.0		
5G48F1	1	Rim fragment.				
5G44A2	1	Body sherd				
5G44D1	1	Body sherd				
5G44D3	1	Body sherd				
5G44D7	1	Body sherd				
5G48A1	1	Body sherd				
5G48A3	1	Body sherd				
5G48A4	2	Body sherds				
5G48A5	2	Body sherds				
5G48B1	10	Body sherds				
5G48B2	9	Body sherds				
5G48B3	2	Body sherds				
5G48B8	1	Body sherd				
5G48C1	15	Body sherds				
5G48D1	8	Body sherds				
5G48D2	19	Body sherds				
5G48D3	1	Body sherd				
5G48F1	2	Body sherds				
5G48F2	2	Body sherds				

Table 39. Miscellaneous Stoneware: Containers

Provenience Excavation lot	Number	Description	Colour Exterior	Interior	Dimensions (mm) Thickness	Estimated Diameter
5G44B5	1	Base fragment. Unglazed.	Dark grey	Grey	6.0	42.0
5G48A5	1	Body sherd. Unglazed.	Grey	Grey	8.8	
5G48D1	1	Body sherd. Unglazed. Burned? Mottled grey surface.	Grey	Grey	7.8	
5G48D3	1	Body sherd. Unglazed.	Dark grey	Grey	-	
5G48B2	1	Rim fragment. Grey salt-glazed.	Grey	Grey	4.8	80.0
5G48B3	1	Rim fragment. Grey salt-glazed.	Grey	Brownish Grey	5.4	80.0
5G48D1	1	Rim fragment. Brown glazed.	5YR 5/4	5YR 4/5	3.0	70.0
5G48A5	1	Rim sherd. Cream-coloured. Exterior cream to orange yellow tinted.	Cream	Grey	6.3	indet.
5G48B2	1	Half of complete vessel. Exterior is cream-coloured. Has strong orange (5YR 6/11) fingerprints on surface. Rim is brownish orange (5YR 5/8). Upper interior same greyish cream as exterior. Bottom of interior grade into brownish orange in bottom.	Cream	Cream	5.3	74.0 rim 43.0 base 80.0 vessel height 6.0 footring height

Provenience Excavation lot	Number	Description	Colour Exterior	Interior	Dimensions (mm) Thickness	Estimated Diameter
5G48B2	1	Rim fragment. Cream-coloured. Interior and exterior same glaze.	Cream	Cream	5.0	indet.
5G48C1	1	Rim base fragment. Cream coloured. Has 5YR 6/11 fingerprints on exterior. Bottom interior also brownish orange.	Cream	Cream	5.0	40.0 base 80.0 rim 80.0 vessel height
5G48D2	2	One rim and one body fragment. Cream-coloured. Body sherd has a moderate brown (5YR 3/3) glaze.	Cream Cream	Brown Grey	3.7 6.4	indet.
5G48F1	1	Rim fragment. Cream-coloured. Interior has 5YR 5/8 glaze.	Cream	Brown	6.0	70.0 ?
5G48A5	1	Rim sherd. Plain buff colour on both interior and exterior. Unlike other sherds this one is fired to stoneware hardness and may more properly be an example of caneware. It is otherwise undistinguished from specimens in this category except for a slightly different shade of colour.			4.0	220.0

Provenience Excavation lot	Number	Description	Colour Exterior	Interior	Dimensions (mm) Thickness	Estimated Diameter
5G48B1	1	Shoulder sherd			6.0	
5G44D9	1	Body sherd				
5G48A3	1	Body sherd. Exterior very smooth. Interior grey salt-glazed.			6.3	
5G48A5	1	Body sherd. Exterior "orange-peel" rough. Interior salt-glazed and yellowish red.			4.9	
5G48B3	1	Body sherd. Exterior salt-glazed; has grainy feel. Interior unglazed.			5.9 7.0	
5G44B5	1	Body sherd. Grey exterior.				
5G44D3	1	Body sherd. Reddish brown exterior, from shoulder-neck juncture.			5.5 4.9	
5G48C1	1	Body sherd			5.6	
5G48A4	1	Body sherd				

Table 40. Unidentified Stoneware

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
Grey Glazed				
5G48B1	1	Base sherd	5.6	130.0 footring
Buff, Lead-Glazed				
5G45A1	1	Base fragment with exterior sprig decoration.	5.9	260.0 base
Coarse Salt-glazed				
5G44B5	1	Body sherd		12.8
Burned (Unidentifiable)				
5G44D1	1	Body sherd		5.0
5G44D7	1	Strap handle	7.0	18.4 wide

Table 41. Utilitarian Semi-porcelain

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D9	1	Rim fragment of small bowl or saucer with moulded vertical fluting on exterior. Lip is thinned, slightly everted and rounded.	2.2	70.0 rim
5G44F2	1	Body sherd with moulded foliate design on exterior.	5.0	
5G44F2	1	Rim sherd from vessel of indeterminate form. The rim is slightly everted and scalloped.	5.0	220.0 rim
5G48A1	1	Base fragment of a tankard-like vessel or large bowl. Vessel wall flared out immediately above footring.	4.4	80.0 footring
5G48A2	1	Rim sherd. Tiny fragment of a rim with rounded lip. There is a moulded line encircling the rim below the lip on the interior side.	5.0	indet.
5G48A2	1	Body sherd. Flat body sherd with trace of geometric (?) moulded design.	3.8	
5G48A2	3	Body sherds. Plain.	2.8-3.7	
5G48A3	1	Body sherd. Trace of moulded design.	5.0	
5G48A3	1	Rim sherd. Rim of a large bowl with flat paneled sides on exterior. Lip is rounded.	4.3-6.3	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48B1	3	Fragments of spout, probably a teapot. One piece includes three holes (3.6 mm diam.) in flat strainer. Exterior surfaces have geometric moulded design. One sherd is spout lip.	3.0-3.7	
5G48B2	1	Body sherd. Plain. Part of bowl wall?	2.8	
5G48D1	1	Rim sherd. Ribbon-like moulded design at marly edge. Marly edge straight; most likely an octagonal plate form. Lip rounded.	3.5	
5G48D1	2	Body sherds. Moulded foliate design on exterior.	2.7-4.7	
5G48D1	1	Rim sherd from plate marly. Ribbon-like moulded band similar to one described above, but rim is scalloped form.	3.6	
5G48D2	1	Body sherd. Fragment of plate or bowl marly, edge missing.	3.6	
5G48C1	5	Body sherds. Three are plain, two have moulded foliate design.	2.5-5.4	
5G48C1	1	Body sherd. Thin, fluted specimen, possibly part of a spout.	1.6	

Provenience Excavation lot	Number	Description	Dimensions (mm)	
			Thickness	Estimated Diameter
5G48C1	1	Body sherd. Wide flat panels similar to one described above.	5.7	
5G48C1	1	Rim sherd. Fragment of a slightly scalloped outflared rim with a slightly beveled rounded lip.	6.7	240.0 rim
5G48C1	2	Handle fragments. One is mid-section of a strap handle, oval in cross-section. The other is a vessel wall fragment with rounded terminal. Specimens do not crossmend but are probably part of same handle. Both have a medial ridge on the two flat surfaces, possibly a mold line.	10.0	19.0 wide
5G48C1	1	Terminal from a vessel lid or possibly a handle. This specimen has a rectangular cross-section, in outline it is rounded and scalloped on the end. The flat surface on three sides is plain; one broad side bears a midline groove and two incuse circles. The decorated side is probably the top. There is a trace of blue colour on one side which is not a purposeful decoration.	15.8 by 16.5	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D3	1	Rim, body and base fragment of a saucer with a footring. The exterior is smooth and undecorated. The interior is decorated with a moulded design including foliate and geometric elements. The lip is thinned and rounded.	3.4	140.0 rim 70.0 footring
5G48B1	2	Handle fragments. Two parts of elaborate handle. Attached to rim segment with scalloped form and moulded interior.	2.4	7.4 handle thickness
5G48C1	1	Rim sherd. Small section of scalloped rim on a large sherd with exterior moulded foliate pattern.	3.4	
5G48C1	5	Body sherds. Exterior moulded with foliate design, part of same vessel as rim described immediately above.	2.4-3.5	
5G48C1	1	Rim sherd. Rim section of large plate or bowl with moulded foliate design on interior. Thinned rounded lip.	3.0	
5G48C1	1	Body sherd. Fragment of indeterminate vessel with moulded exterior design. Remnant of plain strap handle is present.	4.6	Handle: 7.0 thick 13.0 wide 20.0 diam.

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48C1	1	Moulded knob fragment.		
5G44A1	1	Rim sherd with plain rounded lip. Specimen is part of a small straight-sided vessel. Glaze heavily crazed and stained in cracks.		
5G44B5	1	Rim sherd. Vessel wall flares outward at rim. Rounded lip.	2.0	90.0 rim
5G44B5	1	Body sherd with attached remnant of small strap handle.	4.0	130.0 rim Handle: 6.6 9.0 wide
5G44D3	1	Base sherd of coarse porcelain vessel with heave footring. Shape indeterminate, but footring is large pedestal-like with incurved groove around base. Vessel wall flared out above footring.	4.0	90.0 foot
5G48A2	2	Body sherds		
5G48A3	3	Body sherds	3.4-4.0	
5G48A4	2	Body sherds, split.	3.5-4.6	
5G48A4	1	Footring fragment. Segment of a thick footring.	indet.	
5G48A5	1	Rim sherd with rounded lip.	2.6	50.0
5G48A5	1	Body sherd	2.7	65.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A4	1	Base of vessel with remnant of footring. Specimen	2.9	65.0 footring
		is probably part of a small bowl or saucer.	5.1	
5G48B1	1	Base fragment with tiny trace of footring.	3.8	
5G48B5	1	Body sherd	2.4	90.0 rim
5G48C1	2	Rim sherds. Lips are slightly everted and	2.7	
		rounded.	4.0	150.0 rim
5G48C1	1	Rim sherd. Lip slightly flattened and rounded.	4.0-4.5	
5G48C1	2	Body sherds	3.1	110.0 footring
5G48C1	1	Base fragment with segment of footring.	3.2	110.0 footring
5G48D1	1	Base fragment with small segment of footring.	4.0	100.0 rim
5G49C1	1	Rim sherd. Lip rounded.	6.5 x	
5G49C1	1	Handle fragment, oval cross-section.	10.5 thick.	

Table 42. European Porcelain

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
Hard Paste, White				
5G48A2	1	Body sherd	2.6	
5G48A2	1	Rim sherd. Includes trace of small hole, possibly part of teapot strainer.	2.6	1.6 strainer hole
5G57B2	1	Rim sherd	3.0	80.0 rim
5G57B2	1	Body sherd	1.5-3.5	
5G57B2	1	Saucer from child's toy tea set. Exterior glaze is grainy and has protruding large temper grain in base; also visible on interior as a lump. Vessel has a low footring.	2.4	45.0
5G57B3	2	Rim sherds. Cup?	2.8 , 3.0	80.0 rim
5G48B1	1	Rim sherd. White with faint trace of a moulded foliate design on interior around rim.	2.8	60.0 rim
Overglaze Enamel				
5G49B1	1	Rim and basal fragment of a saucer. Rim is slightly everted and rounded. Small segment of unglazed footring. Exterior is undecorated. Interior is painted in overglaze purple and green foliate (?) motif.	2.0- 5.4	120.0 rim 80.0 footring

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	 Estimated Diameter
Overglaze Enamel (continued)				
5G44A1	1	Body sherd. Trace of pink overglaze exterior decoration on exterior. Interior plain.	2.8	
Polychrome Overglaze				
5G48D1	1	Rim sherd consisting of plate or bowl marly. Interior decorated with foliate design, blue underglaze and red and gilt overglaze.	3.0	250.0 rim
5G48D1	1	Basal sherd with blue underglaze and red overglaze foliate motif on interior. Exterior undecorated. Base includes a segment of an indented foot, curved side and trace of marly.	5.3	90.0 foot

Table 43. European Bone China?

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48A1	1	Body sherd of indeterminate vessel. Interior (?) surface has a grey transfer-print design of indeterminate form.	4.6	
5G48B1	1	Body sherd of an indeterminate vessel form. Both interior and exterior are decorated with a foliate blue transfer-print design.	32.	
5G48B5	1	Base of a small tea bowl including a segment of the footring. Interior is undecorated. Exterior has traces of a scenic view in blue transfer-print.	1.7	40.0 footring
5G57B3	1	Rim sherd from straight-sided (octagonal?) plate or bowl marly. Exterior undecorated. Interior has rim border and foliate design in blue transfer-print. Lip is rounded.	3.9	
5G57B4	1	Rim sherd from bowl. Exterior undecorated. Interior is decorated with design in oriental style, probably transfer-printed.	2.9	
5G44A1	1	Body sherd. Exterior is plain. Interior has traces of a single thin gilt line encircling the bottom of the vessel, or marly.	2.5	

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44B6	1	Body sherd. Exterior is plain. Interior has surface mark remnant of a single thin gilt (?) line encircling the bottom of the vessel, or marly.	3.0	
5G44D9	1	Body sherd. Exterior is plain. Interior has traces of a thin gilt line encircling bottom of vessel similar to two others described above. Specimen may be from a marly.	3.3	
5G48A5	1	Body sherd of bluish white ground colour. Interior is undecorated. Exterior bears surface marks and traces of gilt floral design.	4.5	
5G48B2	1	Body sherd. Interior is undecorated. Exterior bears surface marks of overglaze foliate (?) decoration. Sherd exhibits a pronounced sharp shoulder possibly part of teapot.	2.8	
5G44D9	1	Body sherd. Interior is plain. Exterior has surface mark of overglaze foliate design element.	2.7	

Table 44. Chinese Export Porcelain: Underglaze Blue and White

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G44D1	1	Portion of bottom and side of vessel including a segment of the footring of a bowl. The exterior is plain. The interior is decorated with butterflies and an indeterminate geometric (?) form.	3.0	90.0 footring
5G44D14	1	Portion of bottom and side of vessel including a trace of the footring. Probably a saucer. The interior is undecorated. The exterior is painted in what appears to be a portion of the ground in a scenic motif.	2.5	
5G48B4	1	Rim sherd from vessel of indeterminate form. Interior bears a trace of a curved line. The exterior has a broad undulating line and dot motif below the rim. The rim is thinned and rounded.	2.5	140.0 rim
5G48C1	1	Body fragment from vessel of indeterminate form. Interior has trace of gable end and chimney from a scenic motif. Exterior is undecorated.	2.0	
5G48C2	1	Rim fragment of probably bowl form. The interior has a foliate rim band design. The exterior is undecorated.	1.8	150.0 rim

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Estimated Diameter
5G48D2	1	Rim fragment of indeterminate vessel. Interior has a rim band decoration of geometric form composed of parallel horizontal lines between which are parallel cross lines. The exterior bears a trace of a broad angled line of indeterminate motif.	2.9	200.0 rim
5G48E2	1	Rim fragment of indeterminate vessel. Interior has a narrow rim band of parallel and crossed lines and an indeterminate motif below the rim band. Exterior is undecorated.	1.4	120.0 rim
5G49B2	2	Body fragments of indeterminate vessels. Interiors bear traces of scenic (?) motif. Exterior undecorated.	1.9 2.3	
5G49B2	1	Basal fragment including segment of footring. Interior has traces of tree and gabled building from scenic motif. Exterior undecorated.	3.9	110.0 footring
5G57B3	1	Rim sherd of small bowl. Interior has narrow rim band of parallel and crossed lines and central scenic (?) motif. Exterior is undecorated.	2.0	150.0 rim

Table 45. Chinese Export Porcelain, Polychrome

Provenience Excavation lot	Number	Description	Dimensions (mm) Thickness	Dimensions (mm) Estimated Diameter
5G44B1	3	Rim sherds with interior rim band decoration of blue parallel lines with red crossed lines between. One includes a red flower; another a blue curvilinear element as well. Exterior decorated with blue and red foliate design. Lip beveled and brown.	2.6 2.0	180.0 rim
5G44B1	1	Body sherd. Undecorated.		
5G44B1	3	Body sherds. Interior undecorated. Exterior has blue and red foliate design.	2.8-4.0 1.9	
5G48A1	1	Body sherd. Undecorated.		
5G44D6	1	Body sherd. Interior has trace of red foliate motif. Exterior undecorated.	2.7	
5G57B1	1	Rim sherd, undecorated. Lip groove and coloured brown.	2.1 3.0	100.0 rim
5G48C1	1	Brown glazed hard paste.		

Appendix B. Pipe Data

Table 1. Plain Pipe Stem Fragments

Stratigraphic Unit	Excavation Lot	Number of Specimens, By Bore Diameter (in.) 3/64	4/64	5/64	6/64	7/64	8/64	9/64	Mean Stem Diameter (mm) Maximum	Minimum
East flank	5G35M1		1	1					7.5	6.5
East flank, northeast	5G45A1		3	3					7.5	6.6
North face, northeast										
Sod	5G44A2			1					8.3	7.0
Soil	5G44B5		2	8	1				7.9	6.9
Soil	5G44B6			1	1				-	-
Upper fill	5G44D1		4	2					8.1	7.2
Upper fill	5G44D3		1	2	1				7.2	6.1
Upper fill	5G44D4		1	3					7.2	6.2
Upper fill	5G44D5		1						6.3	5.2
Upper fill	5G44D8		1	1	1				7.9	7.2
Upper fill	5G44D9			2					8.7	7.5
Upper fill	5G44D11			2	1				6.4	5.8
Upper fill	5G44D12		1	2					8.8	7.2
Clay	5G44D17		1						6.7	6.2
Upper fill	5G44F3		1	4					7.6	6.5
Upper fill	5G44F4		1	1					7.5	6.8

Stratigraphic Unit	Excavation Lot	Number of Specimens, By Bore Diameter (in.) 3/64	4/64	5/64	6/64	7/64	8/64	9/64	Mean Stem Diameter (mm) Maximum	Minimum
North face, northwest										
Sod	5G48A1		2	6	1				7.2	6.3
Sod	5G48A2		3	8	2				7.8	6.8
Sod	5G48A3		2	3					8.4	7.2
Sod	5G48A4		2	14					8.1	6.7
Sod	5G48A5		2	19	1				8.4	6.9
Sod	5G48A6			4					8.0	6.6
Topsoil	5G48B1		8	33	6				7.9	6.5
Dark soil	5G48B2		18	55	1				7.9	6.6
Upper fill	5G48B3		11	7					7.6	6.7
Ditch fill	5G48B5			1					10.2	7.2
Fill above ditch	5G48B7			2					7.7	7.1
Ditch fill	5G48B8			6					7.3	6.1
Dark soil	5G48C1		5	39					7.7	6.3
Upper fill	5G48C2			3	2				7.1	5.8
Ditch fill	5G48C3		2						6.5	6.1
Topsoil	5G48D1		25	58	8				7.8	7.2
Lens	5G48D2		28	65	7				7.4	6.4

Stratigraphic Unit	Excavation Lot	Number of Specimens, By Bore Diameter (in.) 3/64	4/64	5/64	6/64	7/64	8/64	9/64	Mean Stem Diameter (mm) Maximum	Minimum
Ditch fill	5G48D3		5	3					6.7	5.8
Ditch fill	5G48E2		3	2					7.6	6.4
Topsoil	5G48F1		1	3					7.3	6.0
Fill above ditch	5G48F2			1					10.7	7.8
West Salient	5G57B2			2					8.8	6.4
	5G57B3		1	3					8.0	6.9
	5G57B4			2					7.0	6.5
Redoubt No. 2	5G49A4			2					7.5	7.0
	5G49A5		1						6.0	6.0
	5G49A6			1					8.4	6.4
	5G49B2		1						6.5	6.0
	5G49D1			3					7.2	6.5
	5G49D2			1					7.5	6.7
	5G48A1		1							
	5G48A2			1						
	5G48B2			2	1					
	5G48B3		1							
	5G48C3			1						
	5G48D1			1						
	5G48D2		1							
	5G44A1		3	3						
	5G44B7		1	1						

Table 2. Stem Fragments: Mouthpieces

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Stem Diameter (mm) Minimum
East flank, northeast	5G45A1	Original mouthpiece. Squared end. Greenish yellow glaze, 32 mm on stem and on mouthpiece end. End only slightly tapered.	4/64	6.3	5.0 end
Redoubt No. 2	5G49A4	Tapered original mouthpiece end.	5/64	5.5	3.9 end
	5G49B2	Secondary mouthpiece. Encircling groove used to break off straight. Edges beveled by whittling.	4/64	7.0	6.4
West salient	5G57B2	Tapered end. Secondary mouthpiece? Split, but end is smoothed.	5/64	6.1	5.0
North face, northeast	5G44D3	Original mouthpiece. Flange at mouthpiece end. Stem slightly tapered. Flange 1.0 mm wide.	5/64	7.8	5.1 end
	5G44D9	Original mouthpiece. Stem flattened oval in cross-section. Oval flange 9.6 mm by 7 mm by 2 mm thick at end.	4/64	6.8	5.2
	5G44D4	Secondary mouthpiece; broken end worn smooth by use.	5/64	6.9	5.9

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm)	
				Maximum	Minimum
North face, northeast	5G44D8	Original mouthpiece end? Chipped on end but traces of smooth polished original end surface.	5/64	6.8	5.4
	5G44D1	Secondary mouthpiece. Broken end worn smooth by use.	5/64	7.5	7.1
	5G44D3	Secondary mouthpiece. Broken end worn smooth by use.	4/64	9.0	7.8
	5G44D3	Secondary mouthpiece. Broken end worn smooth by use and is beveled.	4/64	8.1	7.3
	5G44B7	Secondary, tooth-marked and worn.	4/64		
	5G44D4	Secondary mouthpiece; broken end worn smooth.	4/64	7.8	6.6
North face, northwest	5G48C1	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Brown glaze.	4/64	5.6	5.0

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northwest	5G48D1	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Brown glaze.	5/64	6.2	4.9
	5G48A2	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Brown glaze.	6/64	7.1	5.9
	5G48B2	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Brown glaze.	4/64	6.0	5.1
	5G48B2	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Brown glaze.	4/64	6.5	6.2

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Stem Diameter (mm) Minimum
North face, northwest	5G48A4	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Brown glaze.	5/64	6.2	4.5
	5G48B1	Original mouthpiece. Glazed stem 40 mm (where measurable) from end. End surface glazed. Slight taper at mouthpiece end. Greenish glaze.	4/64	6.0	5.5
	5G48A1	Stem fragment near mouthpiece, with traces of greenish or reddish brown glaze.	5/64	7.6	6.6
	5G48B2	Stem fragment near mouthpiece, with traces of greenish or reddish brown glaze.	5/64	7.0	7.0
	5G48A3	Stem fragment near mouthpiece with traces of greenish or reddish brown glaze.	5/64	6.9	6.1

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northwest	5G48A5	Stem fragment near mouthpiece with traces of greenish or reddish brown glaze.	4/64	7.2	6.2
	5G48B2	Stem fragment near mouthpiece with traces of greenish or reddish brown glaze.	5/64	7.4	6.4
	5G48B2	Stem fragment near mouthpiece with traces of greenish or reddish brown glaze.	5/64	6.4	6.0
	5G48B3	Stem fragment near mouthpiece with traces of greenish or reddish brown glaze.	4/64	5.8	4.9
	5G48D2	Stem fragment near mouthpiece with traces of greenish or reddish brown glaze.	5/64	8.1	7.0
	5G48B2	Original mouthpiece; end chipped but trace of smooth surface. Stem grey and burnished.	4/64	7.4	5.5

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northwest	5G48D2	Original mouthpiece. Wire cut mark visible.	5/64	4.5	4.0
	5G48D2	Secondary mouthpiece. End tapered to reduced diameter and worn; tooth marked.		6.0	
	5G48B2	Secondary mouthpiece, end worn. Tooth-marked.	5/64	7.6	6.4
	5G48B2	Secondary mouthpiece, end worn. Tooth-marked.	5/64	9.5	7.0
	5G48B2	Secondary mouthpiece. End smooth, beveled.	4/64	5.5	5.0
	5G48B2	Secondary mouthpiece. End smooth, beveled.	5/64	7.4	6.0
	5G48C1	Secondary mouthpiece. End smooth, beveled.	5/64	7.5	6.0
	5G48A4	Secondary mouthpiece. End smooth, beveled.	4/64	8.4	7.4
	5G48A5	Secondary mouthpiece. End smooth, beveled.	5/64	7.9	7.3

Stratigraphic Unit	Lot	Description	Bore Diameter (in.)	Stem Diameter (mm)	
				Maximum	Minimum
North face, northwest	5G48B1	Original mouthpiece. Tapered stem; slight ridge at bore hole from extraction of wire.	5/64	5.0	4.1
	5G48C1	Original mouthpiece. Tapered stem; slight ridge at bore hole from extraction of wire.	4/64	6.0	5.0
	5G48D1	Original mouthpiece. Tapered stem; slight ridge at bore hole from extraction of wire.	5/64	5.8	5.7
	5G48D2	Original mouthpiece. Tapered stem; slight ridge at bore hole from extraction of wire.	5/64	5.6	4.6
	5G48D2	Original mouthpiece. Tapered stem; slight ridge at bore hole from extraction of wire.	5/64	5.9	5.0

Table 3. Stems, Marked or Decorated

Stratigraphic Unit	Lot	Description	Letter Height (mm)	Bore Diameter (in.)	Stem Diameter (mm)	
					Maximum	Minimum
North face, northeast	5G44D3	Stem fragment near bowl end. Tapered, thicker at bowl. Two cordons with fluting between are moulded. Decorated section 15.6 mm long.		5/64	12.1	6.9
	5G44B5	Stem fragment, impressed maker's mark, MONT...	1.7	5/64	8.8	8.2
	5G44B5	Stem fragment, impressed marks on opposite sides - ...RSON MON......	1.9	5/64	9.6	8.8
	5G44D1	Stem fragment, impressed marks on opposite sides. HENDERSON, MONTREAL. Words 24 mm and 25 mm long.	2.5	5/64	8.7	7.6

Stratigraphic Unit	Lot	Description	Letter Height (mm)	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northeast	5G44D3	Bowl/stem fragment, impressed marks, opposite sides: HENDERSO.., ..ONTREAL. Spur 7.9 mm high, 6.2 mm wide, conical-cylindrical, tapered; has moulded raised backwards "6" on both sides of spur. Trace of bowl, ca. 90° L.	1.5	5/64	9.0	8.5
North face, northwest	5G48B2-95	Stem fragment with tapered cylindrical spur, 7 mm long, 6.2 mm wide. Impressed words 23 mm and 25 mm long on opposite sides.	2.1	5/64	10.4	8.4
		HENDERSON, MONTREAL stem fragments, impressed marks on opposite sides.				
	5G48A1-3	Stem fragments, impressed marks on opposite sides. ....ERSON, MONT...	2.0	5/64	8.0	7.7

Stratigraphic Unit	Lot	Description	Letter Height (mm)	Bore Diameter (in.)	Stem Diameter (mm)	
					Maximum	Minimum
North face, northwest	5G48A1-14	Stem; HENDERSON, MONTREAL	2.5	4/64	8.9	7.3
	5G48A2-16	Stem; ...S...: MONTR...		5/64	8.7	7.0
	5G48A3-9	Stem; HEN...., ...EAL	2.6	6/64	9.9	8.3
	5G48A3-10	Stem; Split, MONT...	2.6	5/64	9.7	8.2
	5G48B1-138	Stem; HENDERSON 23.5 mm long; MONTREAL 22 mm long.	2.0	5/64	9.0	8.0
	5G48C1-49	Stem; HENDERSON 24 mm long; MONTREAL 23 mm long.	3.5	5/64	8.7	7.1
	5G48C1-56	Stem; HENDERSON 24 mm long; MONTREA..	2.0	5/64	9.1	8.3
	5G48C1-55	Stem; ....DER..; ..ED REL... ??	2.0	6/64	10.4	6.0
	5G48C1-57	Stem; ...RSON: MON....	2.0	5/64	8.7	7.4
	5G48D1-65	Stem; HENDERSON: MONTREAL 24 mm long	2.0	4/64	8.2	6.6
	5G48D1-236	Stem; HENDERSON: MONTREAL 25 mm long	2.3	5/64	9.1	8.1
	5G48A1-15	Stem; ..OGHILL: ...ASG...	3.0	5/64	8.0	7.1
	5G48A5-27	Stem; CO....: ...ASGOW. Broken spur 5 mm diam.	2.8	4/64	9.8	7.0

Stratigraphic Unit	Lot	Description	Letter Height (mm)	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northwest	5G48A5-28	Stem; ...ILL: GLA...	2.8	6/64	7.9	6.7
	5G48A5-29	Stem; A. COGH...: ..ASGO..	2.8	5/64	8.4	7.3
	5G48B1-136	Stem; ....HILL: GLA....	3.0	5/64	7.5	6.5
	5G48B1-137	Stem; ....LL: GLA....	2.5	5/64	7.6	6.6
	5G48B1-138	Stem; A. COGHILL: GLASGOW 22.5 mm long	3.0	4/64	9.4	7.0
	5G48B2-83	Stem; A CO.....: .....GOW	3.0	5/64	9.6	7.0
	5G48B2-84	Stem; ....LL: GL....	3.0	5/64	7.8	7.0
	5G48B2-85	Stem; A COG....: ....GOW	2.8	5/64	8.6	7.1
	5G48B2-86	Stem; ....HILL: GLAS...	2.8	5/64	8.2	6.3
	5G48B2-87	Stem; A C....: .....W	2.8	5/64	10.0	7.4
	5G48B2-88	Stem; A COGHILL: GLASGOW; words 23 mm	2.8	5/64	8.8	7.2
	5G48B2-89	Stem; A COGHIL..: GLASGOW	2.8	4/64	10.1	7.0
	5G48B2-90	Stem; A......: ...GOW	2.8	5/64	10.3	7.5
	5G48B2-91	Stem; A COGHILL: GLASGOW; words 23 mm. Stem curved longitudinally.	2.8	5/64	9.1	6.6
	5G48B2-93	Stem; A COGHILL: GLASGOW	2.8	5/64	9.7	7.1

Stratigraphic Unit	Lot	Description	Letter Height (mm)	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northwest	5G48B2-94	Stem; A COGHILL: GLASGOW	2.8	5/64	8.0	6.9
	5G48B2-100	Stem; A C...: ...OW. Letters start 36 mm from bowl. Spur broken 6 mm by 4.5 mm scar.	3.0	5/64	9.7	7.2
	5G48B3-24	Stem; A COGHILL: GLASGOW; words 23 mm	2.8	4/64	9.3	6.9
	5G48C1-48	Stem; A COGHILL: GLASGOW; words 23 mm	3.0	5/64	8.4	6.6
	5G48C1-50	Stem; ..COGHILL: GLAS...	2.5	5/64	7.2	6.1
	5G48C1-52	Stem; A COG....: ....GOW	2.5	5/64	8.6	7.3
	5G48C1-53	Stem; ..COGHIL..: ..LASGOW	2.5	5/64	8.4	7.0
	5G48C1-54	Stem; ....HILL: GLAS...	2.5	5/64	8.1	6.7
	5G48D1-66	Stem; ..COGH...: ..LASGO..	2.5	5/64	8.2	7.3
	5G48D1-67	Stem; A CO.....: ...SGOW	3.0	5/64	8.6	7.1
	5G48D1-68	Stem; ..COGHILL: GLASG..	3.0	5/64	8.0	6.4
	5G48D1-69	Stem; A COGHILL: GLASGOW; words 23 mm	3.0	5/64	9.8	7.0
	5G48D1-64	Stem; A COGHIL..: ..ASGOW	3.0	5/64	8.0	7.0
	5G48D1-237	Stem; ...OGHILL: GLASG..	3.0	4/64	8.2	7.0

Stratigraphic Unit	Lot	Description	Letter Height (mm)	Bore Diameter (in.)	Stem Diameter (mm) Maximum	Minimum
North face, northwest	5G48D2-98	Stem; ..OGHILL: GLASG..				
	5G48D2-99	Stem; A COGHILL: GLASGOW; words 23 mm	3.0	5/64	7.9	7.0
	5G48D2-100	Stem; A COGH...: ...SGOW	3.0	5/64	8.1	7.0
	5G48F2-3	Stem; A COG....: GLASGOW	3.0	4/64	9.5	7.2
	5G48D2-101	Stem; A COG....; ....OW; letters start 36 mm from bowl; tapered spur 7.1 mm long, 6.3 mm wide	3.0	5/64	7.8	7.0
	5G48C1-59	Stem; HEND....: .....EAL; 19 mm from spur. Spur 8 mm long, 5 mm wide.	3.0	5/64	9.8	7.3
	5G44A1-36	Stem; W & D BEL..: QUEBEC	2.0	5/64	9.5	8.0
	5G48C1-51	Stem; QUEBEC [incomplete]	1.5	5/64		
	5G48C1-58	Stem; Two longitudinal lines on stem.	2.0	6/64	7.9	6.7
	5G44B7-9	Stem; ..D BELL: QUEBE..		5/64	7.4	6.4
West Salient			1.5	5/64		
	5G57B2-6	Stem; Impressed letters on opposite sides of stem. McDOUGA....: ....W SCOTLAND	2.6			
	5G57B2-7	Stem; ....GA...: .....W SCOTLAND				
	5G57B2-7	Stem; ......L: GLASG....	2.0	4/64	12.0	
	5G57B2-	Stem; ....LL: GLASGO..	2.6	5/64	11.8	7.3
		End is secondary mouthpiece with toothmarks.	2.0			7.3

Table 4. Plain Bowl Fragments

Stratigraphic Unit	Lot	Description Number of Specimen Bowl Fragments	Lip thickness (mm)
North face, northeast			
	5G44B5	11	1.8-3.9
	5G44B6	1	1.8
	5G44D4	1	-
	5G44D7	1	-
	5G44D7	1 (mouldmark)	2.8
	5G44D8	1	1.8-2.1
	5G44D9	1	-
North face, northwest			
	5G48A1	2	1.1
	5G48A3	1	-
	5G48A4	2	1.0
	5G48A5	21	1.0-2.1
	5G48B1	17	1.0-3.1
	5G48B2	18	1.0-3.0
	5G48B3	3	1.0-2.1
	5G48C1	14	1.0-2.0
	5G48D1	38	1.1-2.6
	5G48D2	32	1.0-2.3
	5G48D3	2	1.0-2.2
West salient			
	5G57A1	1	1.1-2.5
	5G57B2	1	2.8
	5G44D3-60	1	-
	5G48D1-93	1	
	5G48C3-8	1	1.5
	5G48D1-200	1	
Glacis			
	5G44B8-9	1	

Table 5. Stem-Bowl Fragments with Spurs

Stratigraphic Unit	Lot	Description	Estimated Bowl/ Stem Angle	Spur Length (mm)	Spur Width (mm)	Bore (in.)	Stem Maximum (mm)	Diameter Minimum (mm)
North face northwest	5G48	Stem-bowl fragments, bowl form indeterminate. Tapered (to 2.5 mm end), sub-conical spur, oval in section, end. Sometimes distorted or bent forward at bottom. Mould seams. Visible on spur center line.						
	5G48A4-18	"	-	8.5	-?	5/64	10.2	7.8
	5G48A5-25	"		7.5	5.5	5/64	10.0	8.4
	5G48A5-30	"	115°	8.1	7.0	5/64	8.9	7.8
	5G48A5-31	"	110°	8.0	6.2	6/64	8.6	6.7
	5G48A5-55	"	-	8.0	6.6	5/64	-	-
	5G48B1-140	"	-	8.5	5.5	5/64	8.5	6.7
	5G48B1-1141	"	-	9.0	7.0	4/64	10.0	7.4
	5G48B2-92	"	-	7.9	6.1	5/64	10.2	8.2
	5G48B2-96	"	-	6.4	5.4	5/64	10.5	8.2
	5G48B2-97	"	105°	6.4	6.1	4/64	-	-

Stratigraphic Unit	Lot	Description	Estimated Bowl/ Stem Angle	Spur Length (mm)	Spur Width (mm)	Bore (in.)	Stem Maximum (mm)	Diameter Minimum (mm)
North face northwest	5G48B2-98	Stem-bowl fragments, bowl form indeterminate. Tapered (to 2.5 mm end), sub-conical spur, oval in section, end. Sometimes distorted or bent forward at bottom. Mould seams. Visible on spur center line.	110°	7.7	5.6	5/64	10.3	8.6
	5G48B2-99	"	115°	7.6	7.3	4/64	10.0	7.3
	5G48B8-34	"	110°	8.0	6.0	5/64	10.1	7.9
	5G48C1-60	"	-	6.1	4.5	5/64	11.0	8.5
	5G48C1-61	"	-	7.5	5.5	5/64	10.1	7.8
	5G48C1-63	"	-	7.2	6.1	4/64	10.3	6.9
	5G48D1-70	"	-	7.5	6.0	4/64	9.0	7.2
	5G48D1-71	"	-	9.0	7.0	5/64	10.6	7.3
	5G48D1-72	"	-	9.0	6.0	5/64	11.0	7.3
	5G48D1-105	"	-	8.6	6.2	5/64	-	-
	5G48D1-239	"	105°	9.2	6.6	4/64	9.1	7.1

Stratigraphic Unit	Lot	Description	Estimated Bowl/ Stem Angle	Spur Length (mm)	Spur Width (mm)	Bore (in.)	Stem Maximum (mm)	Diameter Minimum (mm)
North face northwest	5G48D2-102	Stem-bowl fragments, bowl form indeterminate. Tapered (to 2.5 mm end), sub-conical spur, oval in section, end. Sometimes distorted or bent forward at bottom. Mould seams. Visible on spur center line.	-	8.0	7.0	5/64	10.3	7.2
	5G48D2-103	"	-	8.5	7.1	5/64	10.0	8.2
	5G48D2-104	"	100°	7.7	6.8	5/64	-	-
	5G48D2-105	"	105°	7.4	5.8	5/64	-	-
	5G48D2-106	"	120°	6.7	5.1	5/64	-	-
	5G48D2-107	"	115°	8.1	6.8	4/64	8.0	7.0
	5G48D2-108	"	115°	8.0	7.0	4/64	8.1	7.1
	5G48D2-109	"	100°	8.7	6.6	5/64	9.8	7.4
	5G48F1-7	"	105°	8.1	6.1	5/64	10.0	8.2
	5G48B1-143	"	110°	8.0	7.5	5/64	-	-
	5G48D1-73	"	-	9.0	6.0	5/64	10.3	7.3

Stratigraphic Unit	Lot	Description	Estimated Bowl/ Stem Angle	Spur Length (mm)	Spur Width (mm)	Bore (in.)	Stem Maximum (mm)	Diameter Minimum (mm)
North face northwest	5G48B1-142	Same as above; with number "2" moulded on each side of spur.		6.6	5.5	4/64	-	-
	5G48B3-25	Same as 5G48D1-73; with illegible letter (H?) on one side of spur.	-	7.7	5.0	4/64	10.3	7.8
		Specimens with spur scars or spur fragments.						
	5G48A2-11	"	-	-	-	5/64	10.2	8.3
	5G48A2-11	"	-	-	-	5/64	10.5	7.7
	5G48A5-54	"	-	-	-	5/64	-	-
	5G48B1-11	"	-	-	-	6/64	10.1	8.6
	5G48B3-18	"	-	-	-	5/64	9.1	7.4
	5G48C1-62	"	95°	-	-	5/64	10.2	8.2
	5G48C3-7	"	115°	-	-	5/64	9.8	7.9
	5G48D1-220	"	110°	-	-	5/64	10.2	7.5
	5G48D1-198	"	-	-	-	5/64	9.1	6.7
	5G48D2-96	"	-	-	-	5/64	10.4	8.1

Stratigraphic Unit	Lot	Description	Estimated Bowl/ Stem Angle	Spur Length (mm)	Spur Width (mm)	Bore (in.)	Stem Maximum (mm)	Diameter Minimum (mm)
North face northwest	5G48D2-97	Specimens with spur scars or spur fragments.	-	-	-	5/64	10.3	8.4
	5G48D2-123	"	-	-	-	5/64	-	-
	5G48F2-4	"	-	-	-	5/64	10.7	7.8
	5G48D2-175	"	-	-	-	5/64	-	-
North face northeast	5G44B5-71	Indet. moulded mark on right side of spur.	90°	6.8	4.2	5/64	9.5	9.0
	5G44D3-58	Plain-conical spur.	115°	6.4	5.8	5/64	9.0	8.6

Table 6. Pipe Bowls and Bowl Fragments

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
5G45A1	Back of bowl, fragment. Raised dots moulded around rim. HENDERSON impressed on back of bowl in oval or circle.					
5G44B5-73	Bowl fragment has impressed decoration of crossed lines in oval of dots.					
5G44B2-76	Back of bowl fragment moulded design.					
5G44B5-76	Barred panel at back; flower on side. Crossmended.	6/64				
5G44D3-61	Rim fragment. Traces of moulded floral design.					
5G44D4-34	Rim fragment. Trace of curvilinear moulded design.					
5G44D4-30	Left side bowl fragment. One half of impressed mark on back. Mark is a wreath with "T" on left of mould line (centre back).					
5G44B5-76 5G44D4	Bowl fragment wreath with "T" and "D" (base fragment) on bowl back. Crossmended.	5/64	110°			

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm) Maximum	Bowl Diameter (mm) Mouth	Bowl Height (mm)
5G44D1-10 5G44D1-9	Back, right bowl fragment with spur of cylindrical shape. Incised impressed mark on bowl; TD and two small circles in oval? "TD" on spur sides, moulded. Crossmended.	4/64	120°			
5G44B5-74	Complete bowl. No spur. Rouletted below rim. HENDERSON? impressed on back in oval circle.	5/64	95°	26.0	17.0	43.0
5G44D3-62	Complete bowl. No spur. Plain. Front and bottom have vertical ridge or keel-like projection, 2.5 mm high and 3.5 mm thick.	5/64		27.0	18.3	38.0
5G44D7-19	Bowl fragment; frontal keel.					
5G44B5-68	Bowl fragment; frontal keel.					
5G44B5	Back of bowl; plain.	5/64	95°			
5G48A3-14	Back of bowl fragment; impressed letters TD on back, 12 mm apart.	-				
5G48A4-21	Back of bowl fragment; impressed letter T on back.	-				
5G48B1-163	Back of bowl fragment; impressed letter T on back.	-				

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
5G48B1-163	Back of bowl fragment; impressed letter T on back.	-				
5G48B1-162	Back of bowl fragment; impressed letter T on back.	-				
5G48D1-241	Back of bowl; Fragment impressed letter T on back.	-				
5G48C1-81	Complete bowl. Conical spur with I on each side. Impressed letters TD on back 10 mm apart. TD on spur upside down.	5/64	110°	26.0	23.0	40.0
5G48A1-21	Bowl back fragment; trace of moulded Masonic and thistle design on side. Spur scar.	5/64	115°			38.0
5G48A5-61	Nearly complete bowl. Spur scar. Moulded letters GG in circle on back.	5/64	125°	20.0	-	42.0
5G48D3-11	Back of bowl. Impressed TD in rope-like circle on back. Letters WG moulded on cylindrical spur. WG 4.5 mm high.	4/64				
5G48E2-5	Complete bowl. Moulded on cylindrical spur. WG 4.5 mm high.					

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm) Maximum	Mouth	Bowl Height (mm)
5G48E2-	Complete bowl; same as above; WG 3.7 mm high	4/64	110°			31.0
5G48A5-56	Bowl fragments. Moulded fluting, oval section cylindrical spurs.					
5G48B1-167	Same as above.					
5G48B2-101	Same as above. "I" and "?" (chipped) moulded on spur sides.	4/64	115°			
5G48B2-130	Bowl fragment; mould flute cylindrical spur.	4/64	110°			35.0
5G48B3-29	Bowl fragment; mould flute spur tapered.	5/64	105°			
5G48E2-23	Bowl fragment; mould flute cylindrical spur WG moulded.					
5G48E2	Bowl fragment; mould flute cylindrical spur; WG moulded on sides of spur, 4 mm high. Flower line on bowl front.	5/64				24.0
5G48B1-170	Complete bowl impressed TD in wreath on back, tapered spurs.	5/64	115°	25.0	17.0	27.0
5G48C1-82	Same as above.	5/64	110°	23.0	21.0	31.0
5G48D2-135	Same as above. Letters H-P carved on side. 10 mm-15 mm high.	5/64	105°	24.0	19.0	32.0

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
5G48D1-112	Bowl fragment; 1/2: impressed D in wreath on back; tapered spur.	5/64	115°			
5G48B1-168	Same as above.	5/64	110°			
5G48B1-169	Bowl fragment; back impressed TD in wreath on back; tapered spur.	5/64	110°			30.0
5G48C1-80	Same as above.	5/64	110°			31.0
	Bowl fragments, impressed part or all of TD in wreath on back.					
5G48A1-17	T					
5G48A1-18	T					
5G48A2-49	D					
5G48A5-57	TD	5/64				
5G48C1-77	T					
5G48C1-78	D					
5G48D1-111	D					
5G48D1-217	D					
5G48D1-115	D					
5G48D2-131	T					
5G48D2-132	T					

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
	Bowl fragments, impressed part or all of TD in wreath on back.					
5G48D2-175	D					
5G48D2-178	D					
5G48D2-177	TD	5/64				
5G48C1-100	TD traces					
5G48D1-113	T					
5G48D2-124	Nearly complete bowl-back missing. Oval section conical spur, tapered plain.	6/64	115°	24.0	18.3	35.0
5G48A2-48	Bowl fragment. Oval section. Cyl. Tapered spur. Plain.	-				
5G48A5-51	Same as above (5G48A2)	5/64				
5G48B1-164	"	5/64	105°			
5G48B1-166	"	5/64	115°			
5G48B2-123	"	5/64	100°			
5G48B9-5	"	5/64				
5G48B9-6	"	5/64				29.0
5G48C1-79	"	5/64	95°			
5G48D1-106	"	5/64				

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
5G48D1-107	Same as above (5G48A2)	5/64				
5G48D1-109	"	5/64				
5G48D1-218	Bowl fragment. Oval section, cylindrical tapered spur. Plain.					
5G48D1-219	Bowl fragment. Oval section, cylindrical tapered spur. Plain.	5/64				
5G48D1-238	Bowl fragment. Oval section, cylindrical tapered spur. Plain.	5/64				
5G48D2-179	Bowl fragment. Oval section, cylindrical tapered spur. Plain.	-				
5G48B1-165	Bowl fragment, spur scar.	5/64	110°			
5G48B2-125	Bowl fragment, spur scar. Trace of mark on back probably TD in circle, impressed.	5/64	100°			
5G48D1-116	Complete bowl, spur scar. Plain.	5/64	115°	23.0	18.6	35.0
5G48D2-133	Complete bowl. Indet. re spur. Faint trace of a moulded mark on back - probably TD in circle of double dots.	5/64	120°	27.0	22.0	38.0
5G48D2-127	Bowl fragment; cylindrical spur.	5/64				
5G48E2-4	Complete bowl. Cylindrical spur. Plain.	3/64	115°	19.0	15.0	31.0
5G48A3-12	Front bowl fragment. Frontal keel-ridge.	-				

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
5G48A5-59	Front bowl fragment. Trace of moulded Masonic.	-				
5G48D1-114	Front bowl fragment; part of moulded effigy head.	-				
5G48B2-148	Front bowl fragment; trace of moulded flowers.	-				
5G48A1-20	Front bowl fragment; trace of moulded flowers.	5/64	105°			
5G48B1-144	Back bowl fragment; trace of moulded flowers.					
5G48B2-126	Front bowl fragment; trace of moulded flowers.					
5G48A3-13	Bowl fragment; moulded fluting.					
5G48A1-19	Bowl fragment; moulded fluting.					
5G48B1-171	Bowl fragment; moulded fluting.					
5G48B2-127	Bowl fragment; moulded fluting.					
5G48B2-129	Bowl fragment; moulded fluting.	5/64				30.0
5G48B4-4	Bowl fragment; moulded fluting.					
5G48C1-98	Bowl fragment; moulded fluting.					

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm) Maximum	Bowl Diameter (mm) Mouth	Bowl Height (mm)
5G48D2-173	Bowl fragment; moulded fluting.					
5G48D1-117	Complete bowl. Moulded TD in double circle of dots. Tapered spur.	5/64	115°	26.0	21.0	31.0
	Fragment Bowls. Part or all of TD moulded in two-dot circle:					
5G48A2-?	T					
5G48A5-58	TD					
5G48A5-60	D					
5G48B2-121	TD					
5G48B2-124	T					
5G48C1-76	D					
5G48D1-140	TD					
5G48D1-108	D					
5G48D2-125	T	4/64				
5G48D2-126	TD	4/64	105°			28.0
5G48D2-128	D	5/64	105°			28.0
5G48D2-129	D					
5G48D2-165	- wreath					
5G48D2-134	Nearly complete pipe TD	6/64	105°	27.0	19.0	29.0

Excavation Lot	Description	Bore Bowl Diameter (in.)	Bowl/ Stem Angle	Bowl Diameter (mm)		Bowl Height (mm)
				Maximum	Mouth	
	Fragment Bowls. Part or all of TD moulded in two-dot circle:					
5G48B2-118	T					
5G48B2-122	T					
5G49B1-3	Bowl fragment. Moulded T on spur.	5/64	120°			
5G49B2-5	Bowl fragment. Moulded T on spur.	5/64	110°			
5G49B2-6	Bowl fragment. Moulded TD on spur 4 mm.	5/64	110°			
5G57B2-9	Bowl fragment. Moulded two-dot circle trace.					
5G57B2-10	Bowl fragment. Part of moulded bearded effigy face.	-				
5G57B2-11	Complete bowl. Impressed letters TD on back (no wreath); spur scar.	5/64	110°	25.0	19.0	29.0
5G44D4-31	Bowl fragment. Moulded crown, left half.					
5G44D4-33	Bowl fragment, plain.	6/64	100°			
5G48B3-89	Complete pipe, small spur. Effigy head bowl.					
5G44A1-19	Bowl fragment. Trace of moulded design.					
5G44B7-8	Bowl fragment. Trace of impressed design; star-like centre and wreath.					

Appendix C. Bottle Glass Data

Table 1. Necks and Finishes; Irregular

Excavation Lot	Colour	Description	Dimensions (mm) Exterior Lip	Interior Lip	Exterior Diameter Rim	String Rim	Width Lip	Neck Diameter Below Rim	Diameter Mid-Neck	Neck Bottom Diameter	Height of Neck
5G44A1-71	10Y	Straight neck. Profile finish slightly out-flared. String rim missing; scar suggests V-tooled.				2.5	9.5				
5G48B5-18	2.5GY	Straight to slightly concave neck profile. Flattened to slightly downtooled string rim. Downtooled lip, overhangs string rim.	29.8	15.5	24.0	2.0	7.0	25.0			
5G44D6-9	5Y	Straight neck. Wide flattened to slightly downtooled string rim, rounded downtooled lip of same diameter as string rim.	30.0	19.5	30.0	8.2	5.7	24.0	27.3		
5G44B5-87	2.5GY	Convex neck. Slightly downtooled, beveled lip and flat to downtooled irregular width string rim.	32.1	22.5	34.3	7.3	3.5	29.0	37.5	40.0	92.0
5G44D17-6	2.5GY	Convex neck. Protruding narrow string rim with downtool lip folded over string rim; top beveled lip, same diameter as string rim. Interior lip groove.		23.5		3.5	6.0	29.5	35.0	38.0	83.9
5G44F6-12	7.5Y	Convex neck. Lip downtool. Beveled top. String rim; downtooled top and uptool flared on bottom. String rim larger than lip. Interior lip groove.	39.6	25.7	42.0	13.0	10.5	32.0	38.0	-	91.5
5G48B8-37	10Y	Same as above.	39.0	28.5	41.0	15.0	8.0	34.0	-	-	-
5G44D15-8	5Y	Convex neck. Flattened, slight downtooled string rim, rounded to beveled downtooled lip usually larger than string rim. Wire closure in groove between string rim and lip bottom.	32.0	2.0	33.0	5.0	10.0	27.0	37.3	38.0	89.0
5G48B3-89	7.5Y	Convex neck; recurve at neck base.	38.0	21.5	37.0	7.0	11.0				
5G48B8-38	2.5Y	Convex neck; recurve at neck base.	-	-	-	5.0	11.0				
5G48B5-19	7.5Y	Convex neck; recurve at neck base.				9.0	10.0				
5G48B2-193	5Y	Convex neck; recurve at neck base.	33.0	29.0	29.0	4.0	6.0	28.5			

			Dimensions (mm)								
Excavation Lot	Colour	Description	Exterior Lip	Interior Lip	Exterior Diameter Rim	String Rim	Width Lip	Neck Diameter Below Rim	Diameter Mid-Neck	Neck Bottom Diameter	Height of Neck
5G48A5-115	5Y	Convex neck; recurve at neck base.	34.6	19.6	32.0	6.0	10.0	28.8	37.0	36.5	82.0
5G48C3-12	2.5Y	Convex neck; recurve at neck base.	36.0	22.0	36.8	8.4	12.7	32.7	39.4	38.6	85.0
5G48A5-116	10Y	Convex neck; recurve at neck base.	32.2	19.8	30.5	7.0	15.0	27.0	36.9	36.0	82.0
5G48C1-105	10Y	Convex neck; recurve at neck base.	31.0	19.6	32.4	9.7	11.2	29.7	36.1	38.0	74.0
5G48D2-239	7.5Y	Convex neck; recurve at neck base. wire closer	39.0	22.0	37.0	10.0	10.0	28.7	37.1	-	-
5G44A1-53	7.5Y	Convex neck; recurve at neck base.	27.0			4.0	17.0				

Table 2. Necks and Finishes; Regular

				Dimensions (mm)								
Excavation Lot	Number of Specimens	Colour	Description	Exterior Lip	Interior Lip	Exterior Diameter Rim	String Rim	Width Lip	Neck Diameter Below Rim	Diameter Mid-Neck	Neck Bottom Diameter	Height of Neck
5G48B2	1	10Y	Convex neck. Flattened string rim. Rounded beveled lip with horizontal striations.				9.0	11.5				
5G48B3-88	1	7.5Y	"				7.0	14.0				
5G48C1-84	1	10Y	"				5.0	16.0				
5G48D2-136	1	10Y	"				6.0	12.0				
5G48B3-31 5G48B4-14 x	1	5Y	"	32.0	20.0	28.0	8.0	13.0				
5G48B1-191	1	2.5Y	"				7.0	10.0	27.6	37.3		
5G48B1-189	1	7.5Y	" Same but higher lip.	35.5	21.0	32.0	7.0	15.0	15.0	28.0		
5G48B1-172	1	10Y	Same as above but lip fragment only.					21.0				
5G57B2-103	1	10Y	Convex neck. Downtooled (outflared) string rim. Vertical collar-like lid same diameter. Horizontal striations.	30.0	20.0	30.5	9.5	18.0	30.0			
5G44B5-88	1	7.5Y	Downtool outflared (pronounced) string rim larger diameter than lip. Lip is vertical. Horizontal striations.	28.8	20.0	34.0	7.8	14.2				
5G57B2-99	1	2.5G	Same as above-except light green/clear with interior neck ridge and same diameter lip/string.	30.0	16.0	30.0	7.5	17.0	25.0			
5G48A3-51	1	7.5R	Straight neck; outflared string rim, rounded lid	29.6	14.0	29.0	4.0	8.0				
5G48A5-119	1	2.5Y	Convex neck. Rounded string rim. Rounded lip.	30.0	19.0	30.0	8.0	11.0	28.0			
5G57B2-101	1	7.5Y	Indeterminate neck. Sloped collar lid. No string rim trace of glass flow.	26.0	18.0	33.0						

Table 3. Bottle Bases; Irregular

				Dimensions (mm)					
Excavation Lot	Number of Specimens	Colour	Description	Exterior Base Diameter	Resting S.P. Diameter	Pontil Diameter	Push-up Tool Diameter	Push-up Height	Pontil Ring Height
5G48A5-113	1	5Y	Bell shaped push-up with tubular blowpipe pontil						
5G44D15-11	1	7.5Y	Quatre foil push-up mark.	100.0	83.0	37.8	25.0	56.8	17.0
5G44F3-31	1	5Y	Quatre foil push-up mark.	103.0	87.0	33.0	40.8	59.5	18.5
5G44D6-8	1	7.5Y	Sand pontil with glass chips.	92.0	78.0	27.0	-	45.5	20.0
5G48B3-51	1	5Y	Sand pontil with glass chips.	95.0	80.0	51.0	51.0	30.0	26.0
5G57B4-20	1	10Y	Sand pontil with glass chips.	93.5	80.0	24.0	21.0	65.0	8.0
5G44D6-12	1	10Y	Sand pontil, small diameter push-up mark.	95.0	76.0	32.8	12.0	52.3	15.0
5G44D11-20	1	2.5Y	Sand pontil, small diameter push-up mark.	95.8	82.0	40.0	18.0	59.0	15.0
5G44D2-3	1	5Y	Sand pontil, small diameter.	120.0	-	36.6	7.0x 11.0	58.0	23.0
5G44D14	1	5Y	Sand pontil, large diameter Push-up mark.	97.3	82.0	31.0	27.0	64.0	17.0
5G44F3-32	1	10Y	Sand pontil, large diameter Push-up mark.	103.0	87.0	39.0	20.0	45.0	27.0
5G44D6-6	1	5GY	Sand pontil, large diameter. Push-up mark.	110.0		50.0			
5G44D7-4	1	10Y	Sand pontil, large diameter. Push-up mark.	105.0		?			20.0
5G44D11-11	1	10Y	Sand pontil, large diameter. Push-up mark.	100.0		?			10.0
5G48A4-56	1	10YR	Sand pontil, large diameter. Push-up mark.	83.0	72.5	52.0	25.5	30.5	13.0
5G49B1-6	1	10Y	Sand pontil, large diameter. Push-up mark.	110.0		?			23.0
5G49D1-8	1	10Y	Sand pontil, large diameter. Push-up mark.	99.0	83.0	32.0	19.0?	48.0	8.0
5G49B1-5	1	5Y	Sand pontil, large diameter. Push-up mark.	110.0	84.0	45.6	-	58.0	23.0
5G48B8-35	1	10Y	Sand pontil, large diameter. Push-up mark.	111.0	86.0	67.0	35.0	34.5	11.5
5G48A1-56	1	7.5Y	Conical push-up, sand pontil, small diameter. Push-up mark.	110.0	100.0	-	23.0	34.0	9.0
5G48E2	1	7.5Y	Same as above.	110.0	100.0	41.0	15.0	41.0	37.0
5G48C1-85 5G48B2-193	1	5Y	Same as above.	est. 80.0	70.0	56.5	11.0	43.0	9.0 26.0
5G44D15-10	1	2.5Y	Same as above.	87.0	74.0	39.0	13.0	53.0	11.0
5G44F2-3	1	10Y	Sand pontil, indeterminate push-up.	90.0					
5G44F4	1	7.5Y	Sand pontil, indeterminate push-up.	110.0					
5G48A4-57	1	10YR	Sand pontil, indeterminate push-up.	80.5					
5G48B2-192	1	10YR	Sand pontil, indeterminate push-up.	90.0					
5G48B2-193	1	10YR	Sand pontil, indeterminate push-up.	-					
5G48B3-30	1	7.5Y	Sand pontil, indeterminate push-up.	120.0					
5G48B3-	1	7.5Y	Sand pontil, indeterminate push-up.	90.0					
5G48B8-24	1	10Y	Sand pontil, indeterminate push-up.	-					
5G48B8-26	1	5Y	Sand pontil, indeterminate push-up.	-					

Table 4. Bottles; Round Whole Bases

				Dimensions (mm)					
Excavation Lot	Number of Specimens	Colour	Description	Exterior Diameter	Foot Diameter	Kick Height	Diameter Push-up Mark	Diameter Pontil Mark	Pontil Ring Height
			Conical kicks. Side wall straight - no sag, regular base.						
5G44B5-89	1	10YR	Conical kicks. Side wall straight - no sag, regular base. Small round push-up depression. Concentric ring-like basal marking-moulded pontil?	90.0	81.0	25.6	9.5	45.0?	17.0
5G44S8-19	1	10YR	Conical kick, straight sidewall. Push-up mark is painted indent. Sand pontil with glass scar or bulge of glass on kick.	90.0	81.0	33.0	1.0	48.0	16.0
5G44D9-34	1	5Y	Kick fragment, conical. Straight sidewall; small round push-up mark round pontil ring.	80.0	-	27.6	6.0	55.0	7.0
5G44D3-75	1	5Y	Side of base. Straight sidewall; no sag. Pebbly surface. Indeterminate push-up form; concentric ridges in base - twist?	90.0	-	-	-	-	-
5G44D4-36 5G44D9-31	1	5Y	Base. No sag; smooth push-up - mould?	80.0	-	-	-	-	-
5G44D9	1	7.5Y	Base. No sag. Concentric marks in push-up.	80.0	-	-	-	-	-

Table 5. Glass Bottle Body Sherds
Round Sectioned "Wine" Bottles

Excavation Lot	Number of Sherds	Colour	Remarks
5G44A2	2	5Y	Body sherds
5G44B5	13	5Y	Body sherds
5G44B5	1	7.5GY	Body sherd
5G44B5	1	5GY	Body sherd
5G44B5	3	2.5GY	Body sherds
5G44B6	3	7.5Y	Body sherds
5G44B6	3	2.5GY	Body sherds
5G44D1	1	7.5Y	Body sherd
5G44D1	1	2.5GY	Body sherd
5G44D2	1	2.5GY	Body sherd
5G44D3	10	7.5Y	Body sherds
5G44D3	3	10YR	Body sherds
5G44D3	5	7.5GY	Body sherds
5G44D4	5	7.5Y	Body sherds
5G44D5	1	2.5Y	Body sherd
5G44D5	1	10Y	Body sherd
5G44D6	1	7.5Y	Body sherd
5G44D6	1	5GY	Body sherd
5G44D7	3	7.5Y	Body sherds
5G44D8	4	5Y	Body sherds
5G44D9	1	7.5Y	Body sherd
5G44D9	1	2.5Y	Body sherd

Excavation Lot	Number of Sherds	Colour	Remarks
5G44D9	1	7.5GY	Body sherd
5G44D9	1	5GY	Body sherd
5G44D11	1	10Y	Body sherd
5G44D11	2	7.5Y	Body sherds
5G44D11	5	2.5GY	Body sherds
5G44D11	1	7.5Y	Body sherd
5G44D14	1	10Y	Body sherd
5G44D15	5	7.5Y	Body sherds
5G44D15	4	7.5Y	Body sherds
5G44D15	1	2.5GY	Body sherd
5G44D16	1	7.5Y	Body sherd
5G44D17	2	10Y	Body sherds
5G44D17	2	5Y	Body sherds
5G44F1	2	7.5Y	Body sherds
5G44F2	4	7.5Y	Body sherds
5G44F2	5	10Y	Body sherds
5G44F3	4	10Y	Body sherds
5G44F3	1	7.5Y	Body sherd
5G44F4	4	7.5Y	Body sherds
5G44F4	4	10Y	Body sherds
5G44F4	4	7.5Y	Body sherds
5G44F6	4	10Y	Body sherds

Excavation Lot	Number of Sherds	Colour	Remarks
5G44F6	4	2.5G	Body sherds
5G44F6	1	7.5Y	Body sherd
5G44A1	1	Burned	Body sherd
5G44A1	3	5Y	Body sherds
5G44A1	7	2.5GY	Body sherds
5G44B7	1	7.5Y	Body sherd
5G44B8	5	2.5Y	Body sherds
5G44B8	2	Burned	Body sherds
5G44B3	1	Burned	Body sherd
5G45A1	2	7.5Y	Body sherds
5G45A1	1	10GY	Body sherd
5G57A1	1	10Y	Body sherd
5G57B3	1	7.5Y	Body sherd
5G57B1	1	2.5BG	Body sherd
5G57B1	6	7.5Y	Neck and body sherds. Cylind. bottle. Evidence of basal sag. Pebbly surface and concentric striations.
5G57B2	7	7.5Y	Body sherds
5G57B2	4	5Y	Body sherds
5G57B4	1	10Y	Body sherd

Excavation Lot	Number of Sherds	Colour	Remarks
5G57B2	1	5Y	Body sherd
5G57B1	1	7.5GY	Body sherd
5G57B2	1	5GY	Base fragment with trace of domed push-up?
5G57B2	10	5GY	Body sherds. Clear metal with small bubble and vertical stress lines.
5G49B1	2	7.5Y	Body sherds
5G48B1	1	10Y	Base fragment with indeterminate form.
5G49B1	1	10Y	Body sherd
5G48B2	59	5Y	Pebbly surface. Traces of basal sag.
5G48A3-15	2	7.5Y	Pebbly surface. Traces of basal sag.
5G48A3-16	5	10Y	Pebbly surface. Traces of basal sag.
5G48A4-22	4	7.5Y	Pebbly surface. Traces of basal sag.
5G48A5-62	12	7.5Y	Pebbly surface. Traces of basal sag.

Excavation Lot	Number of Sherds	Colour	Remarks
5G48A5-63	12	5Y	Pebbly surface. Traces of basal sag.
5G48A1-22	13	7.5Y	Pebbly surface. Traces of basal sag.
5G48A1-23	5	10Y	Pebbly surface. Traces of basal sag.
5G48A1-24	3	2.5Y	Pebbly surface. Traces of basal sag.
5G48A2-20	9	5Y	Pebbly surface. Traces of basal sag.
5G48A2-21	1	10Y	Pebbly surface. Traces of basal sag.
5G48A2-22	3	5GY	Pebbly surface. Traces of basal sag.
5G48A4-23	1	2.5G	Pebbly surface. Traces of basal sag.
5G48D1-74	7	10Y	Pebbly surface. Traces of basal sag.
5G48D1-75	7	7.5Y	Pebbly surface. Traces of basal sag.
5G48D1-76	3	2.5GY	Pebbly surface. Traces of basal sag.

Excavation Lot	Number of Sherds	Colour	Remarks
5G48C1-83	10	10Y	Pebbly surface. Traces of basal sag.
5G48C1-84	7	7.5Y	Pebbly surface. Traces of basal sag.
5G48C1-85	26	5Y	Pebbly surface. Traces of basal sag.
5G48B3-30	10	7.5Y	Pebbly surface. Traces of basal sag.
5G48B3-31	30	5Y	Pebbly surface. Traces of basal sag.
5G48B1-172	6	10Y	Pebbly surface. Traces of basal sag.
5G48B1-174	12	7.5Y	Pebbly surface. Traces of basal sag.
5G48B1-175	1	10Y	Pebbly surface. Traces of basal sag.
5G48D2-136	11	7.5Y	Pebbly surface. Traces of basal sag.
5G48D1-242	6	5Y	Pebbly surface. Traces of basal sag.
5G48D1-243	1	7.5Y	Pebbly surface. Traces of basal sag.

Excavation Lot	Number of Sherds	Colour	Remarks
5G48B8-24	5	10Y	Pebbly surface. Traces of basal sag.
5G48B8	5	7.5Y	Pebbly surface. Traces of basal sag.
5G48D3-14	5	10Y	Pebbly surface. Traces of basal sag.
5G48B1-191	13	5Y	Pebbly surface. Traces of basal sag.
5G48C2-10	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48C2-11	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48B4-5	1	5Y	Pebbly surface. Traces of basal sag.
5G48B5-6	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48C3-9	3	10Y	Pebbly surface. Traces of basal sag.
5G48C3-10	4	7.5Y	Pebbly surface. Traces of basal sag.
5G48E2-7	1	10Y	Pebbly surface. Traces of basal sag.

Excavation Lot	Number of Sherds	Colour	Remarks
5G48E2-8	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48D1-221	2	7.5Y	Pebbly surface. Traces of basal sag.
5G48D2-179	2	10Y	Pebbly surface. Traces of basal sag.
5G48B5-12	3	7.5Y	Pebbly surface. Traces of basal sag.
5G48B6-2	1	10Y	Pebbly surface. Traces of basal sag.
5G48B7-5	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48B3-30	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48A6-4	1	7.5Y	Pebbly surface. Traces of basal sag.
5G48F1-8	1	10Y	Pebbly surface. Traces of basal sag.
5G48C1-101	2	10Y	Pebbly surface. Traces of basal sag.
5G49A1-2	1	10Y	Pebbly surface. Traces of basal sag.

Excavation Lot	Number of Sherds	Colour	Remarks
5G49A1-4	1	7.5Y	Body sherd. Push-up fragment.
5G49A4-3	1	7.5Y	Body sherd
5G49B2-7	1	2.5GY	Body sherd
5G49D1-5	3	10Y	Body sherds
5G49D1-6	1	2.5GY	Body sherd
5G49D2-4	2	10Y	Body sherds

Table 6. Square Sectioned Bottle Base

Excavation Lot	Number of Sherds	Colour	Remarks
5G44F2-2	1	7.5Y	Square section base, pontil rod push-up scar.
5G57B2-22	1	7.5G	Square section, rounded foot.
5G48D1-196	1	7.5Y	Square-sectioned base with drag and mould seam.
5G57A1-9	1	10Y	Square-sectioned base, moulded bottom design.
5G48A3-18	1	2.5G	Square-sectioned base, circular pontil scar on flat bottom.

Table 7. Glass Bottle Body Sherds: Flat Panel

Excavation Lot	Number of Sherds	Colour	Remarks
5G44D15	1	2.5GY	Flat panel body sherd.
5G44D17	1	2.5GY	Flat panel body sherd.
5G44F6	1	2.5GY	Flat panel body sherd.
5G44D7	1	7.5Y	Square corner sherd.
5G44F7	1	10Y	Square corner sherd.
5G44D6	1	10Y	Bottom corner of square bottle. Fragment. Dimensions indeterminate.
5G44B5	1	7.5GY	Base corner, flat bottom, square section.
5G45A1	1	7.5Y	Flat panel body sherd. Moulded.
5G57B2	9	7.5Y	Body sherds, octagonal sectioned bottle. Corner panels 12 mm and 16 mm wide. Vertical pebbly lines; mould marks.
5G57A1	1	5Y	Body sherd with rounded corner and flat panels.
5G57A1	1	5Y	Body sherd with vertical indented mould striations and a horizontal moulded bar.
5G57B2	27	7.5Y	Flat paneled body sherds with traces of rounded shoulders on three specimens.

Excavation Lot	Number of Sherds	Colour	Remarks
5G57A1	5	5Y	Body sherds, flat panels.
5G57B3	1	10Y	Corner and trace of base of square-sectioned bottle. Moulded inset panel.
5G48A5	3	2.5GY	Vertical mould striation.
5G48A1-23	1	10Y	Vertical mould striation.
5G48B1-174	1	7.5Y	Vertical mould striation.
5G48B3-31	1	5Y	Vertical mould striation.
5G48D2-136	1	7.5Y	Vertical mould striation.
5G48D1-74	3	10Y	Vertical mould striation.
5G48D1-176	1	10Y	Vertical mould striation.
5G48C1-90	1	10BG	Vertical mould striation.
5G48C1-89	1	2.5BG	Neck and shoulder of one-half of the top of a thin oblong bottle with rounded or octagonal ends. The neck is 16 mm in diameter. This specimen is more like a flask than a true octagonal form.

Table 8. Wide-Mouth Bottles

Excavation Lot	Number of Sherds	Colour	Description
5G48A1-26	1	7.5GY	Rounded thickened rim, 9 mm wide and 6.5 mm thick. Estimated diameter: 44 mm.
5G44B4-94	1	2.5G	Wide mouth bottle with folded rim. Mouth diameter 44 mm. Width of rim 9 mm.
5G44F4-19	1	10Y	Wide mouth bottle with flared lip 9 mm wide. Estimated diameter at lip, 41 mm, rim height 5 mm. Neck diameter 48 mm.
5G48B2-204	1		Wide mouth, large size finish with round rim and string rim, convex neck.

Table 9. Bottle Rim, Collared

			Dimensions (mm)						
Excavation Unit	Number of Specimen	Description	Exterior Lip	Interior Lip	Exterior Diameter Rim	Width Lip	Neck Diameter Below Rim	Mid-Neck Diameter	Neck Bottom Diameter
5G57B2-1	1 2.5BG	Collared rim, trace of String rim. Straight neck. "Castor Oil" form.	27.1	16.3		23.0	22.0		
5G57B2-1	1 7.5BG	Collared rim "Castor Oil" form. Straight neck.	23.0	16.0		18.0	21.0	23.0	60.0

Table 10. "Champagne" Bottle Sherds

Excavation Lot	Number of Sherds	Colour	Description	Dimensions (mm)
5G48A1-55	1	7.5G	Nipple from top of push-up.	22 high 23 diameter
5G48C1-87	1	5GY	Body sherd	
5G48C1-87	1	5GY	Steep conical push-up fragment.	26 height
5G48C1-87	1	5GY	Rim fragment, flat band string rim.	
5G48C1-188	1	5GY	Rim and neck fragment. Flat band string rim.	26 estimated diameter lip 20 interior diameter lip 14 string rim width
5G44D3	1		Rim	
5G44F6	1		Push-up fragment.	
5G44A2	1		Push-up fragment.	
5G57B2-17	1		Two fragments of panel string rim but clear.	

Table 11. Miscellaneous Body Sherds, Light Coloured and Clear

Excavation Lot	Number of Sherds	Colour	Remarks
5G44D3	1	Clear	
5G44B5	1	2.5BG	Mould seam
5G44B5	1	10GY	Body sherd
5G44D3	2	10GY	
5G44D3	1	5GY	
5G44D3	1	7.5GY	
5G44D5	1	2.5GY	
5G44D7	1	2.5GY	
5G44D9	1	5GY	
5G44F2	2	2.5GY	
5G44A2	1	7.5GY	Base fragment small round sectioned bottle with missing push-up??
5G44F6	1	2.5GY	
5G57B2	13	10B	Pebbly surface
5G57B2	3	7.5Y	Pebbly surface
5G57B5	1	10Y	
5G48A1-24	2	2.5Y	
5G48B1-179	2	7.5PB	
5G48B2-197	1	2.5Y	
5G48D1-248	1	5GB	Flat panel

Excavation Lot	Number of Sherds	Colour	Remarks
5G48B7-7	1	2.5BG	Patina
5G48C1-91	1	2.5G	Irridescent
5G48C1-86	2	7.5GY	Flat panel, moulded, raised dot.
5G48A2-24	1	2.5GY	Flat panel, moulded.
5G48A5-67	1	7.5GY	Flat panel, scalloped corner.
5G48B2-33	1	7.5GY	Octagonal??
5G48D1-245	1	7.5GY	Flat panel, scalloped corner.
5G48C1-103	1	10GY	
5G48B2-198	1	2.5BG	
5G48D1-246	1	5G	
5G48C1-89	1	2.5BG	
5G48C1-88	1	7.5G	
5G44A1	1	Clear	Clear
5G44B7	1	10GY	Mould seam

Table 12. Miscellaneous Body Sherds; Modern Glass

Excavation Lot	Number of Sherds	Colour	Remarks
5G44A3	1	Clear	Crown cap, rim
5G44B5	1	10G	Clear green, moulded ridges
5G44F2	4	Clear	Moulded
5G44B5	2	Clear	
5G44??	1	Clear	
5G57B2	7	Clear	
5G57B2	6	5G	Wavy imperfections. Modern?
5G57B2	4	5G	Flat paneled. Modern?
5G57B2	1	2.5YR	Neck fragment, clear
5G57B2	3	10YR	Mould seam
5G57B2	11	2.5GY	Base and body sherds
5G57B2	2	2.5BG	
5G48A1-25	1	5GY	
5G48C1-87	3	5Y	
5G48B1-176	1	5GY	
5G48D2-138	1	5GY	
5G48A3-17	2	5GY	
5G48A2-21	1	10Y	
5G48B1-175	1	10Y	
5G48C1-85	1	5Y	
5G48D2-137	3	10Y	
5G48D1-74	1	10Y	
5G48D1-76	2	10Y	

Excavation Lot	Number of Sherds	Colour	Remarks
5G48A2-23	3	10GY	
5G48A3-19	1	10GY	
5G48A3-21	1	2.5BG	
5G48A4-24	1	7.5GY	
5G48B1-176	1	5GY	
5G48B1-180	2	7.5BG	
5G48B1	1	7.5BG	
5G48B2-194	5	10GY	
5G48B3-34	1	7.5GY	Moulded
5G48B3-33	1	10GY	Lip sherd
5G48B7-6	2	2.5BG	
5G48D1-77	3	10GY	
5G48D1-247	1	2.5G	
5G48A2-20	1	Clear	Large jug
5G48A2-26	1	Clear	Large jug
5G48A4-25	1	Clear	Large jug
5G48A5-67	1	Clear	Large jug
5G48A1-27	1	Clear	Large jug
5G48B1-181	5	Clear	Large jug
5G48C1-102	1	Clear	Large jug
5G48D1-83	2	Clear	Large jug
5G48C1-92	1	Clear	Large jug
5G48D2-180	2	Clear	Large jug
5G48D3-15	1	Clear	Ketchup

Table 13. Bottle Glass; Colour

Excavation Lot	2.5 YR	10 Y	2.5 Y	5 Y	7.5 Y	10 Y	2.5 GY	5 GY	7.5 GY	10 GY	2.5 G	5 G	7.5 G	10 G	2.5 BG	5 BG	7.5 BG	10 BG	2.5 B	10 B	7.5 P	7.5 PB	Burned	Clear
5G48A1			5		11	7		1	1															
5G48A2				10		2		3	1	6					3									3
5G48A3					2	4		2		4	5	1			3									1
5G48A4					4				2		1													1
5G48A5			1	10	13		5	1																1
5G48A6				1	1																			
5G48B1			2	28	18	10		2	1	3							4					2		7
5G48B2		4		51		19			8	1						1								
5G48B3		1		33	10				1	2														
5G48B4				1																				
5G48B5					4																			
5G48B6						1																		
5G48B7					1						2													
5G48B8				1	5	6																	1	
5G48C1				40	8	15				1	1		1		3			1						5
5G48C2				5	16	15	5		1	4	1	1				2			1					3
5G48D2		1			11	6		1	2															2
5G48D3						5																		
5G48E2					1	1																		
5G48F1						1																		
5G48A1				4		3																		
5G57B1					5				1						1									
5G57B2	1	3		7	46		11	11		22		10	12	1	1				13	5				7
5G57B3					1	1																		1
5G57B4						1																		
5G57B5						1																		
5G45A1					3				1	1														
5G49A1					1	1																		
5G49A3							1																	
5G49A4					1																			
5G49A6						1	1																	
5G49B1				1	4	2																		
5G49B2							1																	
5G49D1						3	1																	
5G49D2						3							3											
5G44A2				3					1															
5G44B5				12	2		3		1	1					2									
5G44B6					3		3																	
5G44D1					1		1																	
5G44D2							1																	
5G44D3		3			10			1	5	2			1											1
5G44D4				1	5																			
5G44D5			1			1	1																	
5G44D6					1	1		2																
5G44D7					4		1																	
5G44D8				4																				
5G44D9			2		2			2	1															
5G44D11					3	1	6																	
5G44D14						1																		
5G44D15					4		2																	
5G44D16					1																			
5G44D17				2		2																		
5G44F1					1																			
5G44F2					4	5																		
5G44F3					3	7																		
5G44F4					9	6																		
5G44F6					1	6	5																	
5G44F7					1	1																		

Table 14. Summary of Bottle Glass Colours by Stratigraphic Distribution

Unit		2.5YR	10YR	2.5Y	5Y	7.5Y	10Y	2.5GY	5GY	7.5GY	10GY	2.5G	5G	7.5G	10G	2.5BG	5BG	7.5BG	10BG	2.5B	10B	5.5PB	7.5P	Burn.	Clear	Total
SG44																										
Sod	No.				3	1				1																5
	%				60.0	20.0				20.0																100.0%
Soil																										
above	No.				12	13	5	7		1	1					2										41
ditch	%				29.3	31.7	12.2	17.1		2.4	2.4					4.9										100.0%
Upper	No.		3		5	34	16	9	5	6	2			1											1	85
fill	%		3.5		5.9	40.0	18.8	10.6	5.9	7.1	2.4			1.2											1.2	100.1%
Logs	No.					2	7	5																		14
	%					14.3	50.0	35.7																		100.0%
Clay	No.				2	5	3	2																		12
	%				16.7	41.7	25.0	16.7																		100.1%
SG45A1	No.					3				1	1															5
	%					60.0				20.0	20.0															100.0%
SG48	No.			6	21	31	13	5	7	4	10	6	1			6									6	116
Sod	%			5.2	18.1	26.7	11.2	4.3	6.0	3.4	8.6	5.2	0.9			5.2									5.2	100.0%
Topsoil	No.			2	28	18	11		2	1	3							4				2			7	78
	%			2.6	35.9	23.1	14.1		2.6	1.3	3.8							5.1				2.6			8.9	100.0%
Dark	No.			4	91	8	34			8	2	1		1		3	1		1			1			12	167
soil	%			2.4	54.5	4.8	20.3			4.8	1.2	0.6		0.6		1.8	0.6		0.6			0.6			7.2	100.0%
Fill																										
above	No.					1						2				1										4
ditch	%					25.0						50.0				25.0										100.0%
Lens	No.		1			11	6		1	2															2	23
	%		4.3			47.8	26.1		4.3	8.7															8.7	94.9%
Upper	No.		1		38	26	15	5		2	6	1	1				2			1					3	101
fill	%		0.9		37.6	25.7	14.8	4.9		1.9	5.9	0.9					1.9			0.9					2.9	99.2%
Ditch	No.				2	10	13																	1		26
fill	%				7.7	38.5	50.0																	3.8		100.0%
SG57																										
Sod	No.				4	3																				7
	%				57.1	42.8																				99.9%
Lens	No.					5				1						1										7
	%					71.4				14.3						14.3										100.0%
Soil																										
above	No.	1	3		7	46		11	11		22		10	12	1	1					13	5			7	150
ditch	%	0.7	2.0		4.7	30.7		7.3	7.3		14.7		6.7	8.0	0.7	0.7					8.7	3.3			4.7	100.2%
Ditch	No.					1	3																		1	5
pits	%					20.0	60.0																		20.0	100.0%
SG49																										
Sod	No.				1	5	6	1																		
	%				7.7	38.5	46.1	7.7																		
Ditch	No.					1	1																			
	%					50.0	50.0																			
Log	No.						1	1																		
fill	%						50.0	50.0																		
Clay																										
above	No.			1																						
wall	%			100.0																						
North of	No.						3							3												
wall	%						50.0							50.0												
Old																										
French																										

Table 15. Stratigraphic Distribution of Bottle Glass by Colour Hues

Stratigraphic Unit		YR	Y	GY	G	BG	B	PB	Burned	Clear
North Face, northeast										
Sod	No.		8	1						
	%		80.0	20.0						
Topsoil above ditch	No.		30	9		2				
	%		73.2	21.9		4.9				
Upper ditch	No.	3	58	22	1					1
	%	3.5	68.2	26.0	1.2					1.2
Logs	No.		9	5						
	%		64.3	35.7						
Clay	No.		10	2						
	%		83.4	16.7						
East Flank	No.		3	2						
	%		60.0	40.0						
Shoulder, northwest										
Sod	No.		71	26	7	6				6
	%		61.2	22.3	6.1	5.2				5.2
Topsoil	No.		59	6		4		2		7
	%		75.7	7.7		5.1		2.6		8.9
Dark soil	No.	4	133	10	2	5		1		12
	%	2.4	79.6	6.0	1.2	3.0		0.6		7.2
Fill above ditch	No.		1		2	1				
	%		25.0		50.0	25.0				
Lens	No.	1	17	3						2
	%	4.3	74.8	13.0						8.7
Upper fill	No.	1	79	13	2	2	1			3
	%	0.9	78.1	12.7	1.8	1.9	0.9			2.9
Ditch fill	No.		25						1	
	%		96.2						3.8	
Salient										
Sod	No.		7							
	%		100.0							
Lens	No.		5	1		1				
	%		71.4	14.3		14.3				
Soil above ditch	No.	4	53	49	23	1	13	5		7
	%	2.7	35.4	29.4	15.4	0.7	4.7	3.3		4.7
Ditch fill	No.		4				1			
	%		80.0				20.0			
Redoubt No. 2										
Sod	No.		12	1						
	%		92.3	7.7						
Ditch fill south	No.		1	1						
	%		50.0	50.0						
Log fill	No.		1	1						
	%		50.0	50.0						
Clay	No.									
	%									
Fill wall	No.			1						
	%			100.0						
Fill north of wall	No.		3		3					
	%		50.0		50.0					
Old French	No.									
	%									

Table 16. Glass Vessels

Excavation Unit	Number of Specimens	Description
5G44B6-8	1	Wineglass bowl fragment.
5G44D8-11	1	Wineglass bowl fragment.
5G48B5-14	1	Wineglass bowl fragment.
5G48B2-198	3	Wineglass bowl fragments.
5G48D2-181	1	Wineglass bowl fragment.
5G48B1-180	1	Wineglass bowl fragment.
5G57B2-26	1	Wineglass bowl fragment.
5G57B2-25	1	Wineglass bowl fragment.
5G44D1-44	1	Wineglass bowl fragment. Missing specimen, card data only.
5G44D9-3	1	Wineglass bowl fragment. Missing specimen, card data only.
5G44D15-7	1	Wineglass bowl fragment. Missing specimen, card data only.
5G48A1-27	1	Wineglass bowl fragment. Missing specimen, card data only.
5G48B9-4	1	Wineglass bowl fragment. Missing specimen, card data only.
5G48C2-11	1	Wineglass bowl fragment. Missing specimen, card data only.
5G48D2-142	1	Wineglass bowl fragment. Missing specimen, card data only.

Excavation Unit	Number of Specimens	Description
5G48D3-15	1	Wineglass bowl fragment. Missing specimen, card data only.
5G44D2-2	1	Wineglass bowl/stem fragment.
5G44B9-11	1	Wineglass stem/foot fragment.
5G44D12-3	1	Wineglass foot. Foot diameter 58 mm
5G49A6-6	1	Wineglass foot. Foot diameter 65 mm
5G48B2-206	1	Wineglass bowl fragment. Missing specimen. Flat panel, faceted bowl.
5G48B7-8	1	Same as above.
5G57B2-26	1	Wineglass bowl.
5G44D3-74	1	Vessel base, round. Glass pontil mark.
5G48D3-16	1	Vessel base, round. Glass pontil mark.
5G48A5-114	1	Vessel base, round. Glass pontil mark.
5G48B8-39	1	Vessel base, round. Glass pontil mark.
5G48A4-55	1	Vessel base, moulded; octagonal.
5G48B5-15	1	Vessel base, moulded; octagonal.
5G57B1-8	1	Vessel base, moulded; 14 panels.
5G57B2-25	1	Vessel base, moulded; octagonal.
5G44D15-9	1	Vessel base, moulded; octagonal.
5G48B2-205	1	Vessel base, moulded; scallops and rays.
5G48B1-181	1	Vessel fragment. Lip.
5G48C1-92	1	Vessel fragment. Lip.
5G57B2-19	2	Vessel fragment. Lip, fluted sides.

Excavation Unit	Number of Specimens	Description
5G57B2-19	2	Vessel fragment. Flat panels (octagonal?)
5G48B7-8	1	Vessel fragment. Fluted.
5G48B2-198	2	Vessel fragments. Fluted.
5G48B2-198	2	Vessel fragments. Plain.
5G44B7-7	1	Plate glass.
5G57B2-19	1	Cylindrical neck, thickened lip.
5G57B2-23	1	Cylindrical neck, thickened lip, cordon.
5G57B3-12	1	Cylindrical neck, cordon.
5G57B2-94	1	White opaque cover.
5G44B5-95	1	Bluish green moulded rays.
5G48A3-18	1	Moulded, thin.
5G57B2-19	1	Chimney base.
5G48B1-181	1	Chimney base ??
5G48A3-32	1	Chimney base ?? Flanged lip?
5G57B2-26	3	Chimney fragments? Charred.
5G57B2-26	1	Chimney fragment?
5G57B2-25	3	Melted glass.
5G48D2-213	1	Melted glass - missing.
5G57B2-24	1	Decanter base? missing.
5G44D7-9	1	Glass ring - missing.
5G48B3-88	1	Beads

Table 17. Pane Glass

Provenience Excavation Lot	2.5G	5G	7.5G	10G	2.5GY	5GY	7.5GY	10GY	2.5BG	5BG	Clear	2.5RP
5G57												
Sod	1						1					
Lens	1	1										
Soil above ditch	21						13	59	38		4	1
Upper ditch fill												
Lower ditch fill												
5G49												
Redoubt No. 2												
Sod												
Ditch fill south of masonry							1					
Fill above masonry												
Log level												
Clay												
Old French ditch												
Glacis												
Sod			3	3			1					
Topsoil	2		2								1	
North Face, northeast												
Sod												
Soil above ditch					2				4	1		
Ditch fill above rocks	7					1					8	
Rock layer												
Ditch fill below rocks		1			2		1					
Log layer		1										
Fascines												
Clay layer						1						
5G45							1					
5G48												
Sod			9				2	4			6	
Topsoil	8	4	14		1	1	8	6	1		3	
Dark soil	10	11		4			7	5	1			
Fill above ditch												
Lens	8		6					4				
Upper ditch fill	1	2	3		1	1	1			3		
Ditch fill above logs	2		1			1		1				

Appendix D. Miscellaneous Artifacts

Table 1. Miscellaneous Unidentified Iron Objects

Excavation Unit	Number of Specimens	Description	Dimensions (mm)					
			Length	Width	Thickness	Diameter	Hole Diameter	Dim.
5G44G5-13	3	Unidentified.						
5G44D11-15	1	Unidentified.						
5G48A3-48	1	Iron plate with hole in center. Plate fragment is irregular.	72.0	89.0			20.0	
5G48A4-41	1	Flat iron strap with tapered end bent to form a hook.	100.0	26.0	3.9			12.0
5G48B2-180	1	Fragment with projection with central hole.	44.0				11.0	
5G48B9-7	1	Object with three projecting shafts; one with ball end.	78.5	33.6				10.6
5G48C1-160	1	Unidentified.				32.0		
5G48C-161	1	Unidentified; circular with central shank (?)				66.5		
5G48C1-162	1	Unidentified; circular with central shank (?)	52.0					
5G48C2-15	1	Unidentified; tapering strap.	91.0	11.0	4.0			
5G48C3-14	1	Unidentified; irregular.	102.0					
5G48D1-165	1	Unidentified; ridge on one side; scalloped projection with holes.	118.0		6.0			
5G48D1-166	1	L-shaped object, ball end; other end thinned.	37.0	32.0				
5G48D1-305	1	Unidentified; irregular.	87.0					
5G48D2-206	1	Unidentified; irregular.	72.0	19.0				
5G48D3-28	1	Unidentified; irregular.	-					
5G57B2-64	1	Unidentified; irregular.	-					
5G57B3-13	1	Object with shank and rivet.	182.0	21.0	2.8			
5G57B3-16	1	Rectangular object.	40.0	36.0	2.0			
5G57B2-59	1	Unidentified; sharp.	145.0	21.0	4.0			
5G57B2-60	1	Unidentified; stove part (?)	82.0	12.0				
5G49B1-11	1	Unidentified; triangular.	110.0	25.0	3.5			
5G49B1-12	1	Unidentified; saw-tooth shape. Ice saw (?)	142.0	28.0	5.0			
5G49C1-2	1	Unidentified; triangular.	65.0	23.0	40.0			
5G49C2-3	3	Unidentified; hollow.	-					
5G49D3-6	1	Unidentified; -	113.0	61.0				

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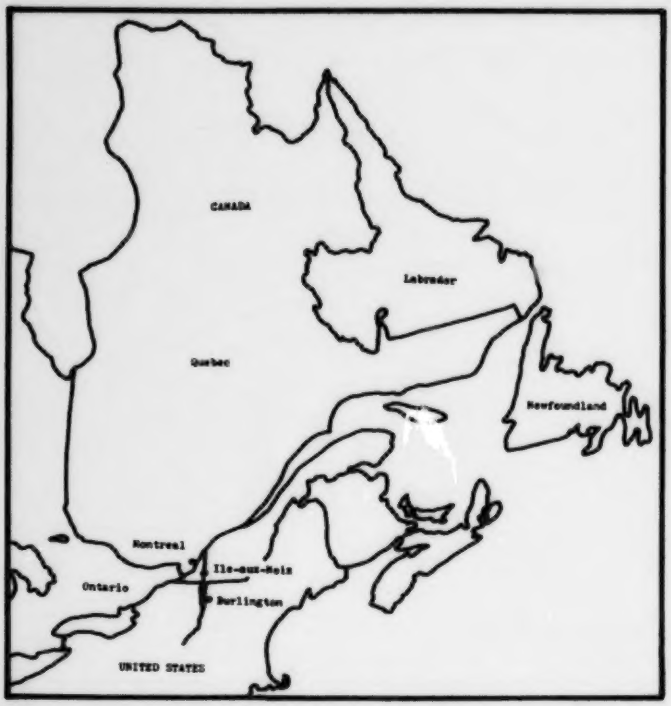
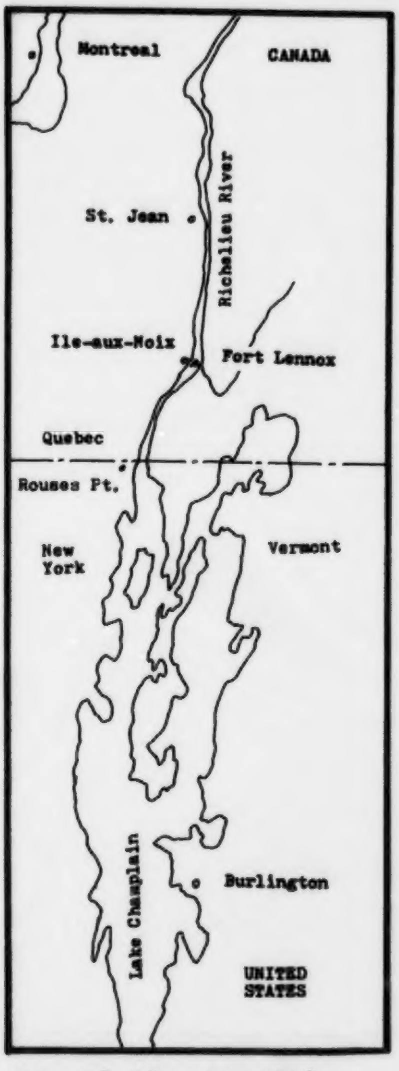
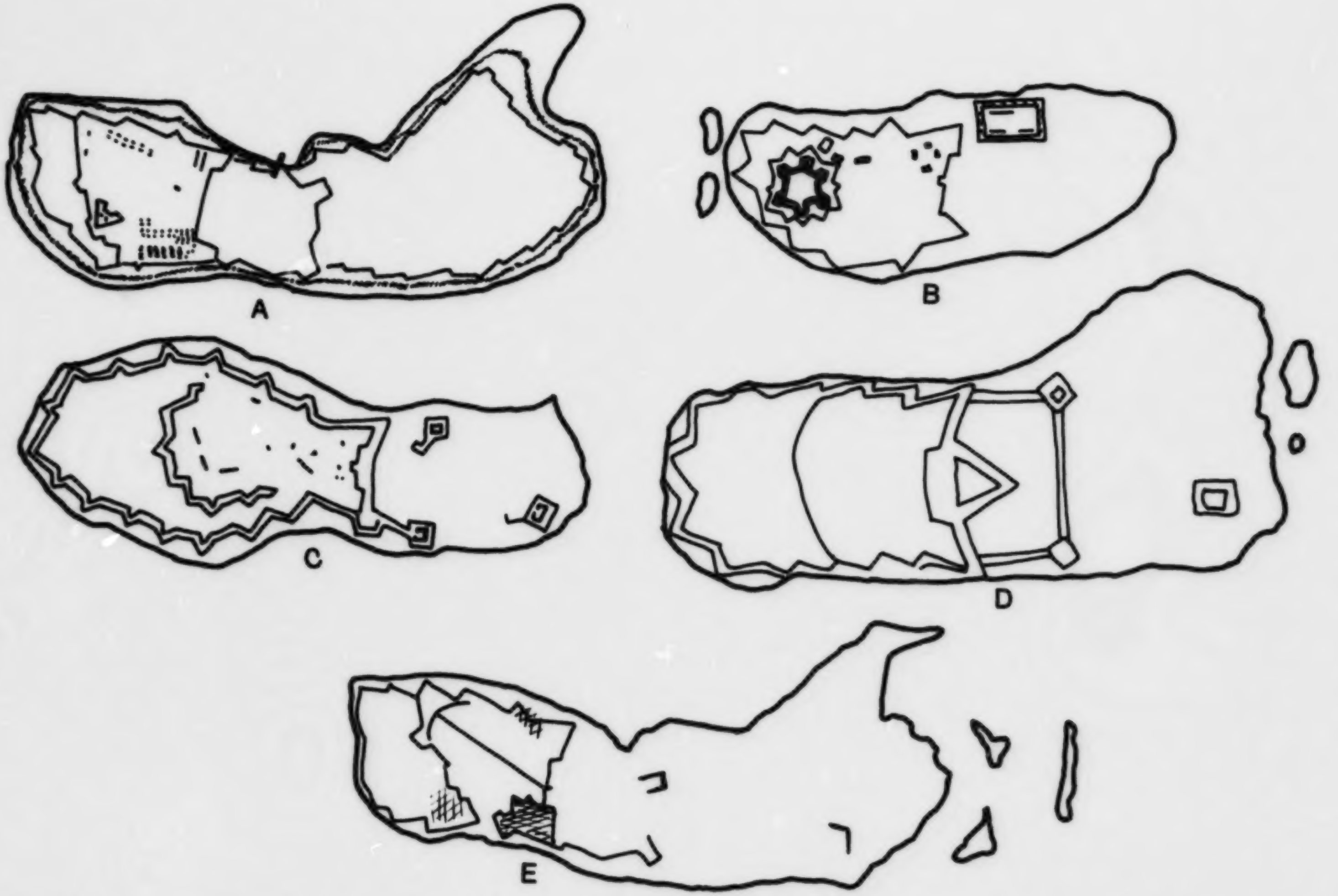
ILLUSTRATIONS


CANADA
Labrador
Quebec
Newfoundland
Montreal
Ile-aux-Noix
Ontario
Burlington
UNITED STATES

1 Map showing location of Ile-aux-Noix.

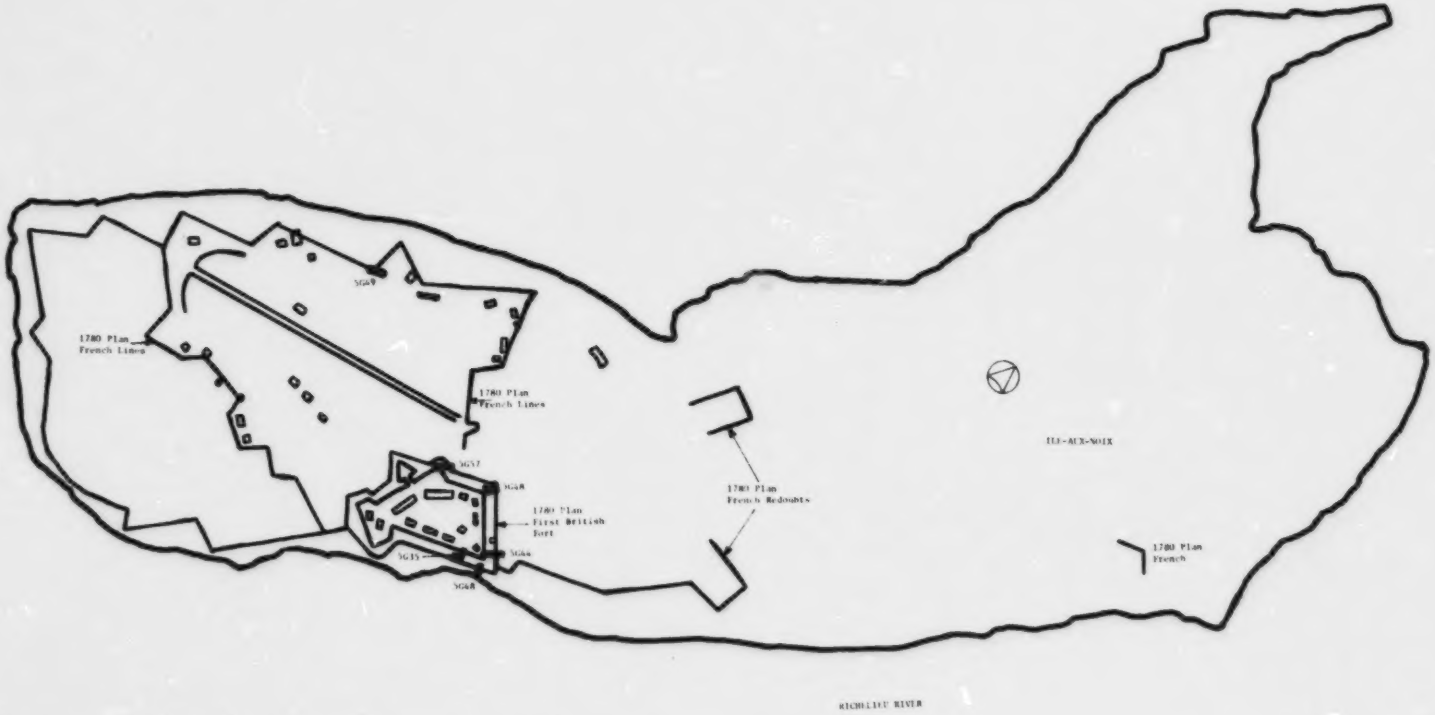

Montreal
CANADA
Richelieu River
St. Jean
Ile-aux-Noix
Fort Lennox
Quebec
Rouses Pt.
New York
Vermont
Lake Champlain
Burlington
UNITED STATES

2 Map of Ile-aux-Noix showing the location of Fort Lennox National Historic Park.

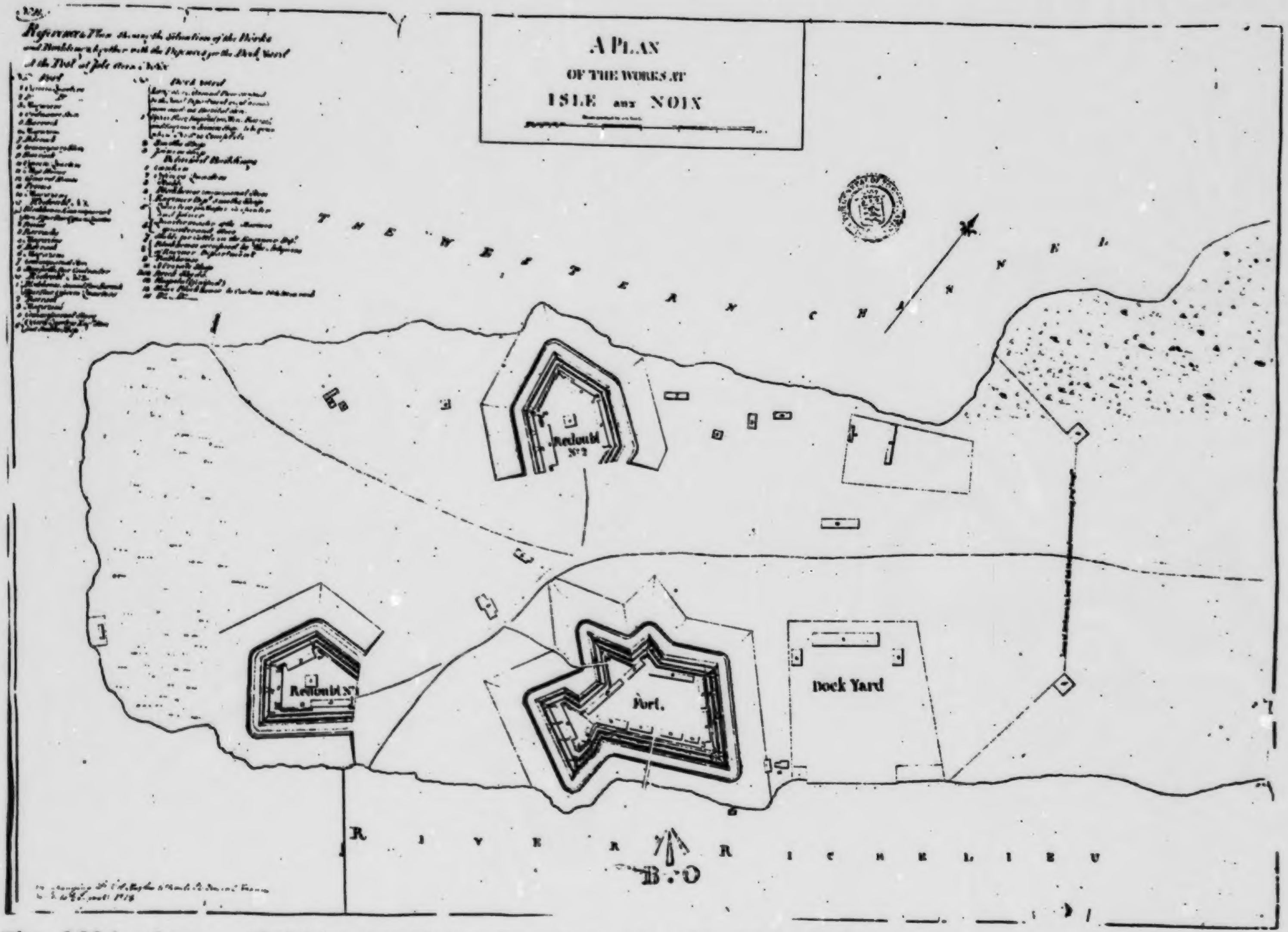


3 Details taken from five plans of the French fortifications. *a*, from an unknown American source; *b*, from Le Sieur de Courville; *c*, from Bourlamaque's plan; *d*, from the Johnston plan; *e*, from the 1780 British plan. (*Originals in the Public Archives Canada; drawn from copies in Lee 1965 a and b.*)

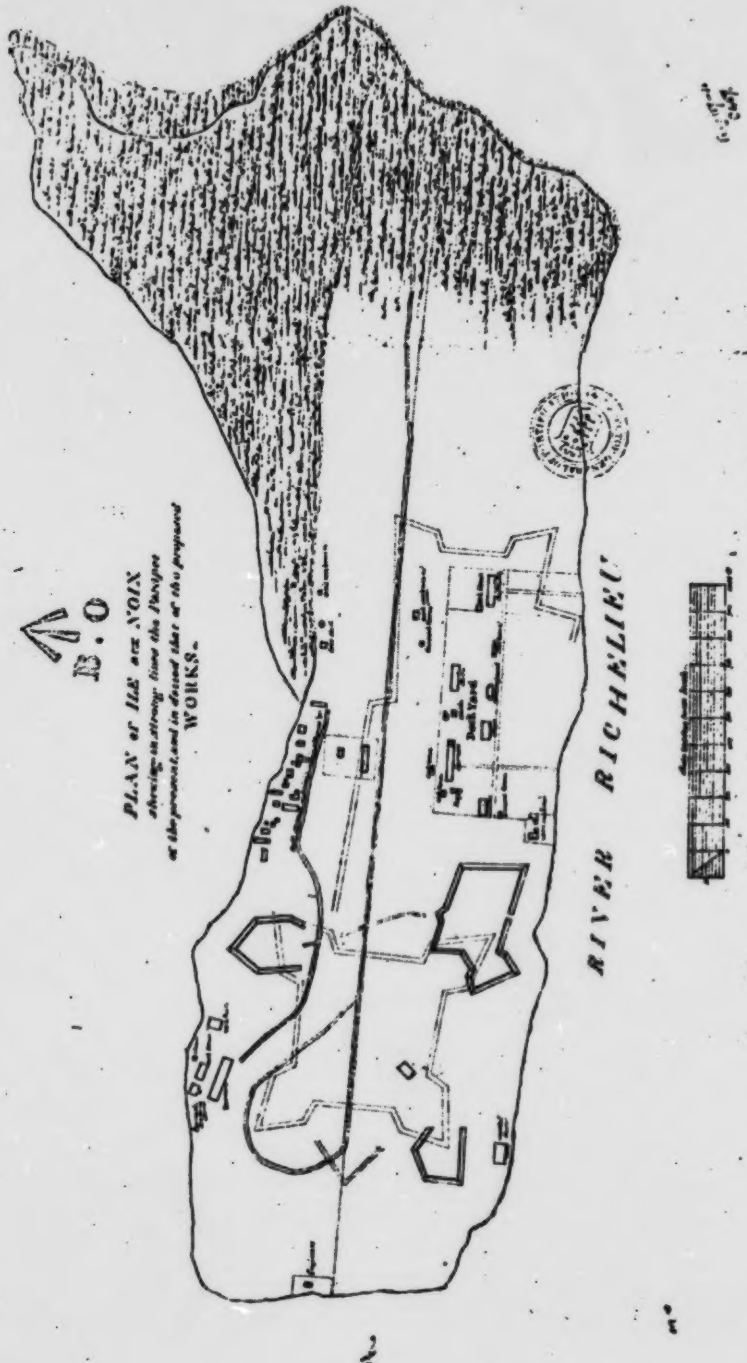
4 The 1780 British plan. (Public Archives Canada; copy in Lee 1965a.)


1780 Plan
French Lines
5G49
1780 Plan
French Lines
5G57
5G48
1780 Plan
First British
Fort
5G35
5G44
5G48
1780 Plan
French Redoubts
ILE-AUX-NOIX
1780 Plan
French
RICHELIEU RIVER

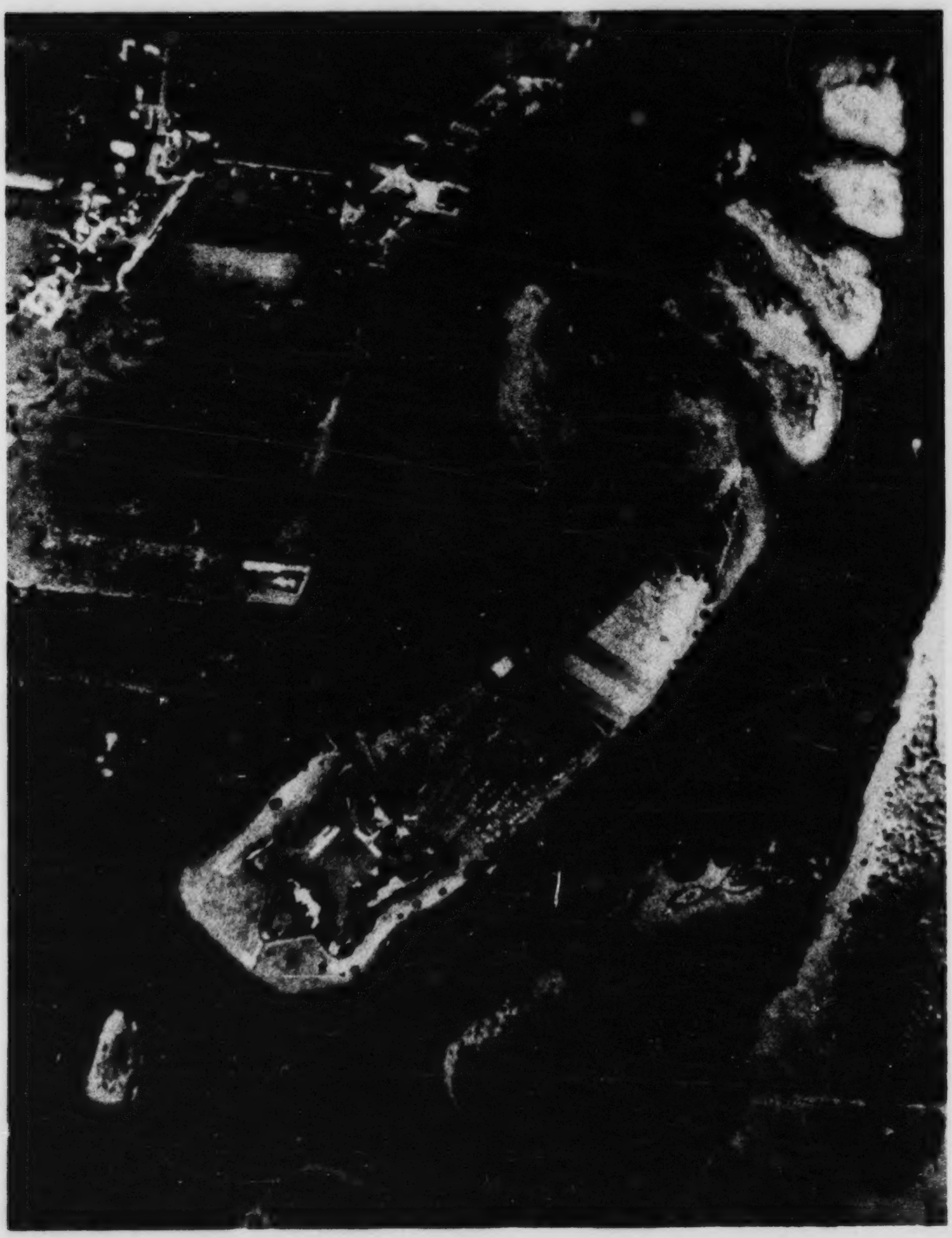
5 Correlation of the 1780 plan and the excavations.


A PLAN
OF THE WORKS AT
ISLE aux NOIX
THE WESTERN CHANNEL
Redoubt N°2
Redoubt N°1
Fort.
Dock Yard
RIVER RICHELIEU
B.O

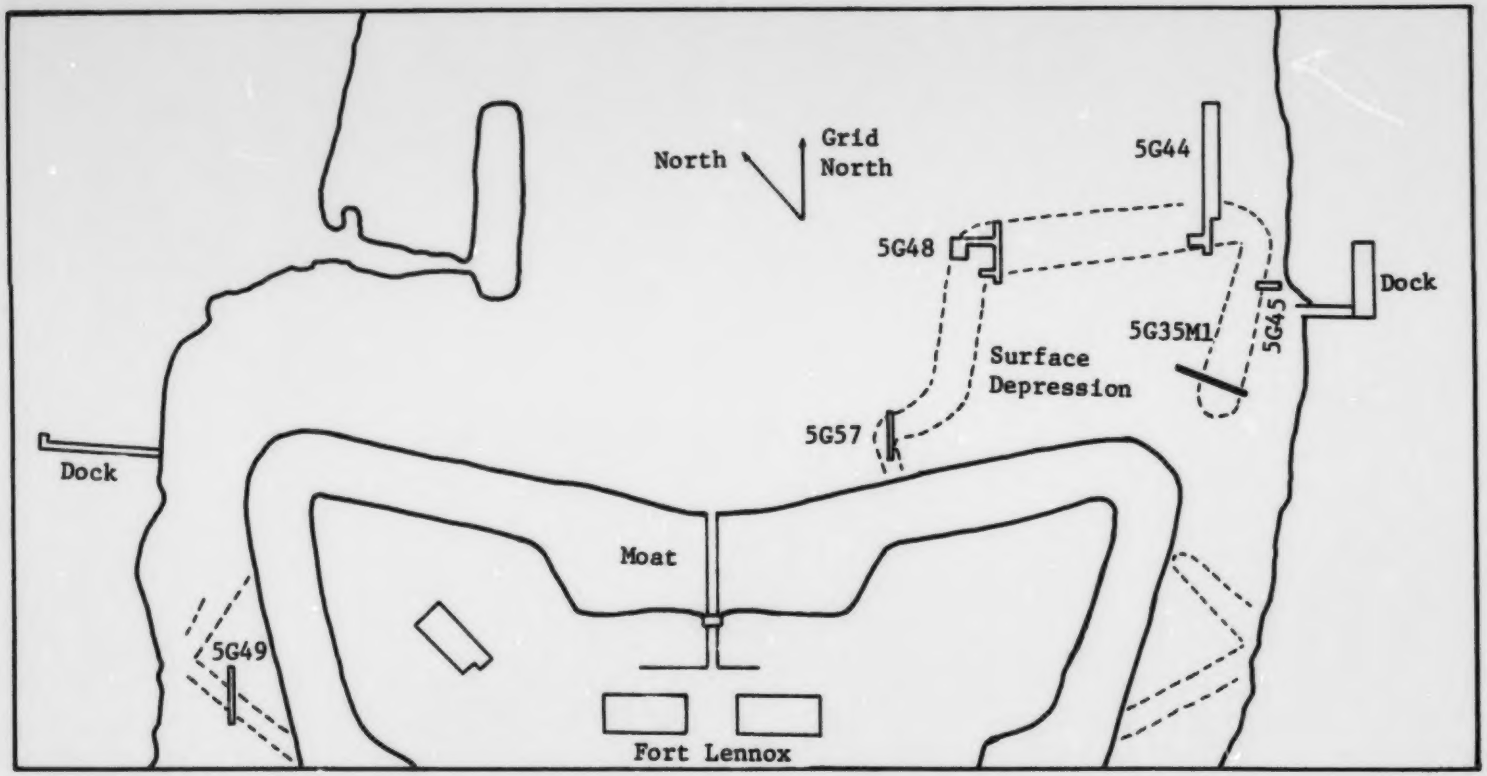
6 The 1814 plan. (Public Archives Canada; copy in Lee 1965a.)


B.O
PLAN of ILE aux NOIX
shewing in strong lines the Parapet
of the present, and in dotted that of the proposed
WORKS.
RIVER RICHELIEU

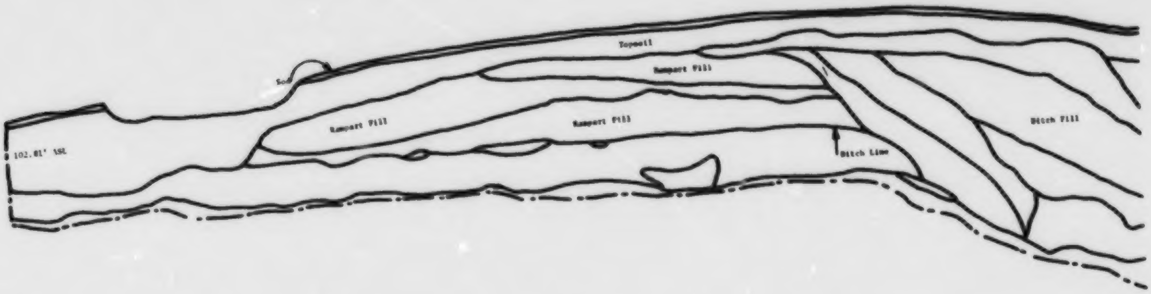
7 The 1818 plan. (Public Archives Canada; printed in Lee 1965a.)



8 General aerial view of Ile-aux-Noix. (Air Photo Division, Energy, Mines and Resources.)

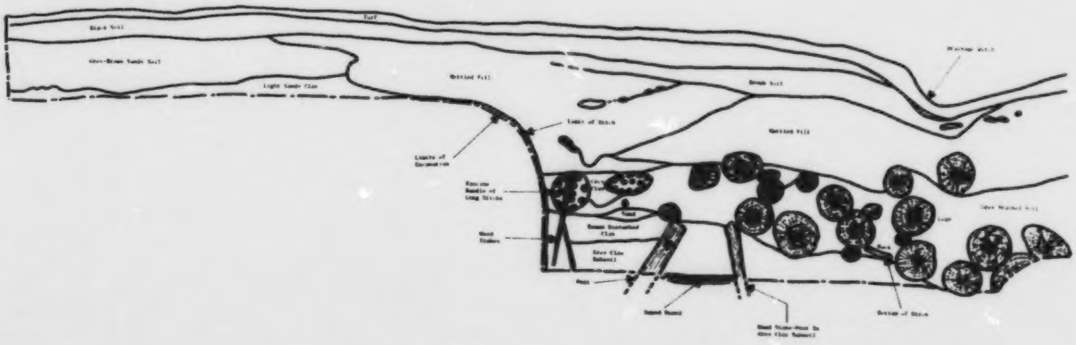

North
Grid North
5G44
5G48
Dock
5G45
5G35M1
Surface Depression
5G57
Dock
Moat
5G49
Fort Lennox

9 Site map showing operations excavated in 1966 and discussed in this report.

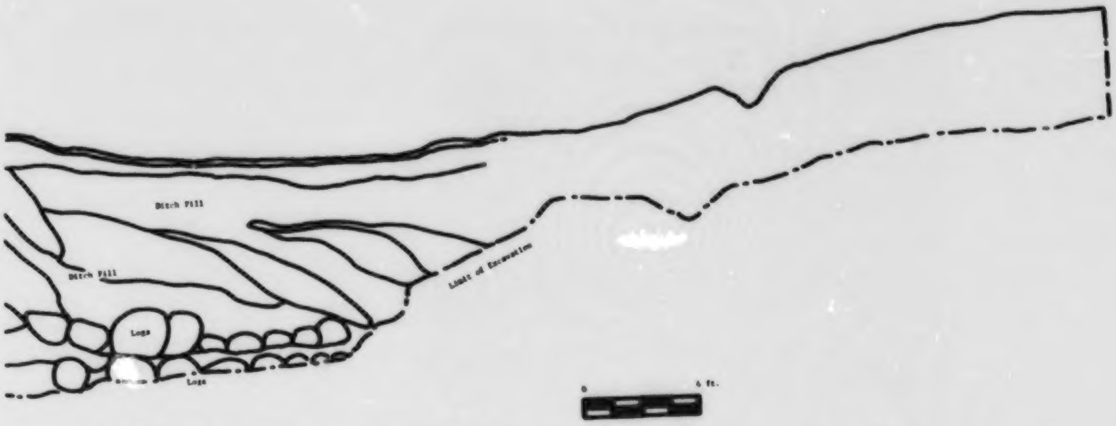

Topsoil
Sod
Rampart Fill
Rampart Fill
Rampart Fill
Ditch Fill
102.81' ASL
Ditch Line

10 The east flank excavation profile showing the north side

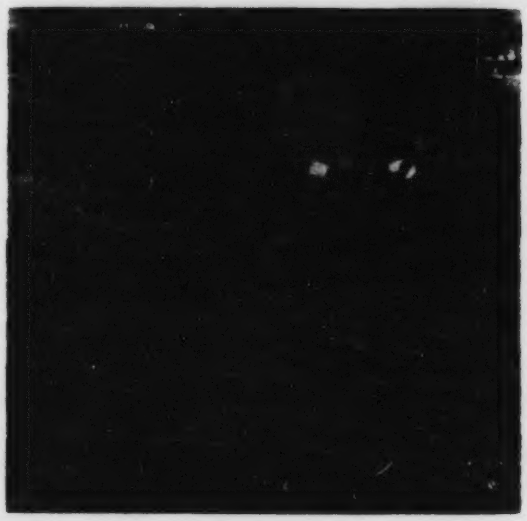
11 View of the east flank near the northeast salient, looking east, showing slanted timber in ditch area.


Turf
Black Soil
Light Sandy Clay
Mottled Fill
Brown Soil
Mottled Fill
Limits of Excavation
Sand
Grey Clay Subsoil
Post
Bottom of Ditch

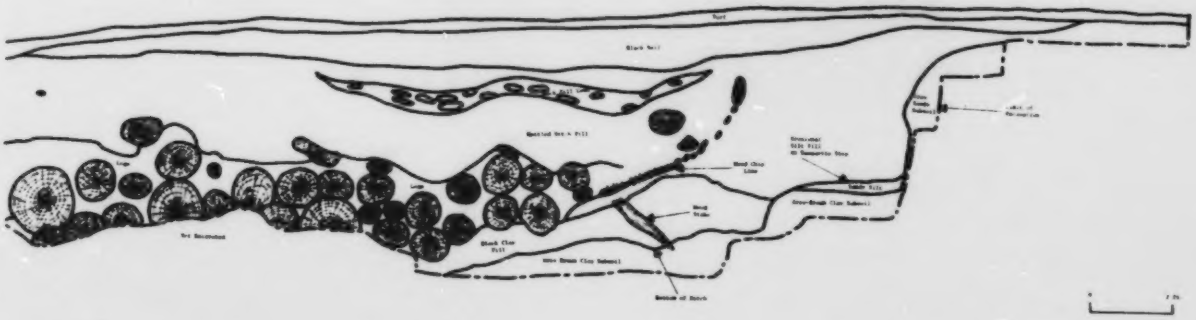
13 View of the north face profile (5G44). The west profile of


Ditch Fill
Ditch Fill
Limit of Excavation
Logs
Logs
0
4 ft.

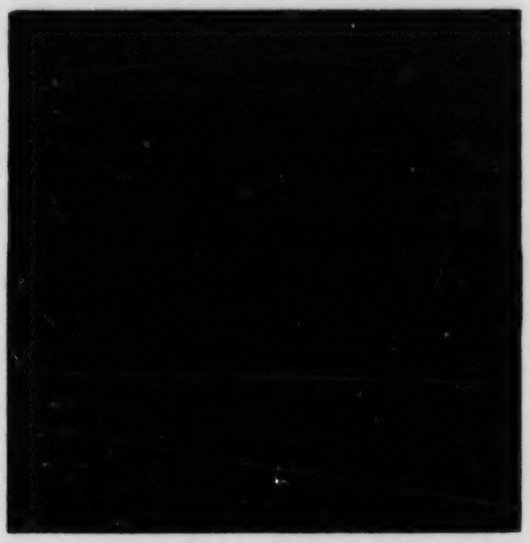
of the excavation trench. (From Ashworth field drawing.)



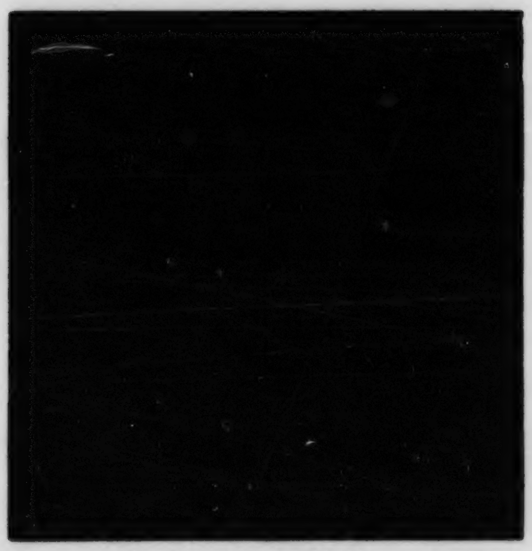
12 General view, facing grid north, of ditch in the north face of the first British fort near the northeast salient (5G44). Log fill of ditch is shown in the foreground and the glacis area is shown in the background.


Turf
Black Soil
Logs
Logs
Wood Stake
Black Clay Fill
Sandy Silt
Bottom of Ditch
Limit of Excavation
0
2 ft

the excavation through the fortification ditch is shown.

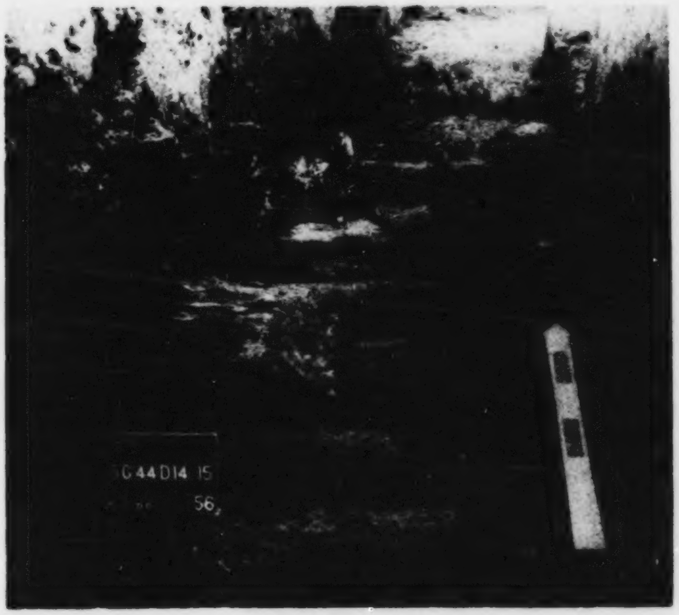


14 The north face ditch line (5G44). View towards the west showing the line of the north side of the ditch before excavation.



15 The rock layer (5G44). View towards the west showing the rock layer in the ditch fill.

16a The log layer (5G44). General view towards the south showing the log fill layer before excavation.

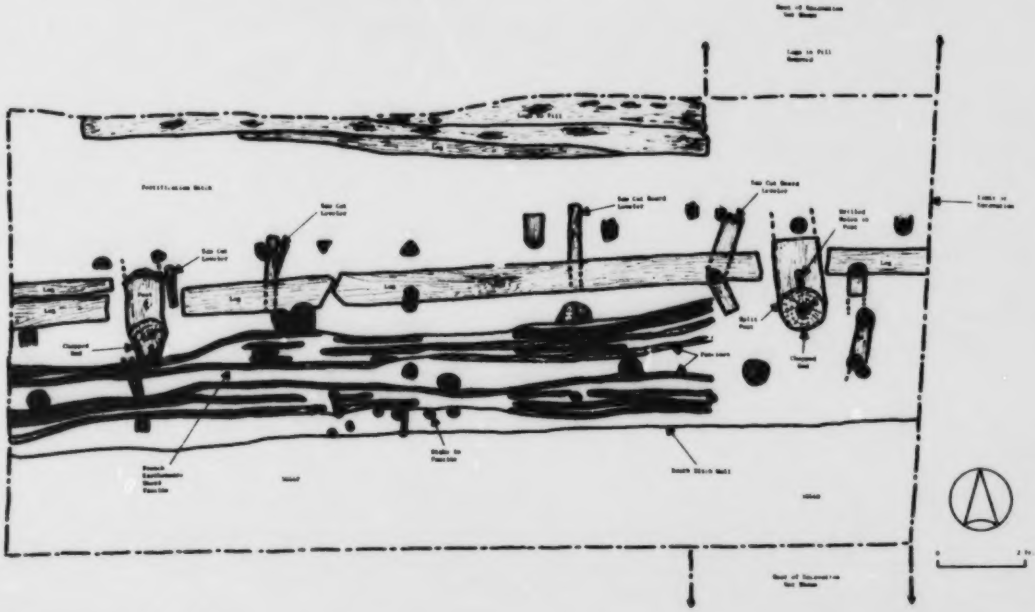


16b The log layer (5G44). Close-up view towards the north showing original cut log butts.

17a The north face log structures (5G44). View towards the south showing log fill and timber structure partly exposed.

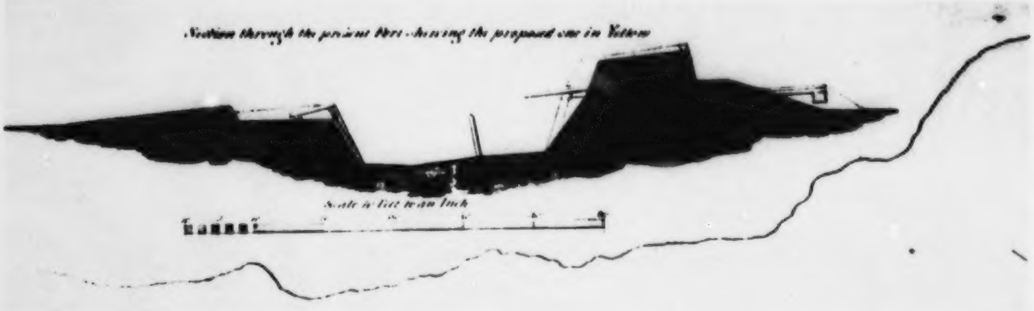
17b The north face log structures (5G44). View to the southwest showing log structure exposed.

18 The north face area (5G44). View towards the northwest showing fascines and log fill during excavation.

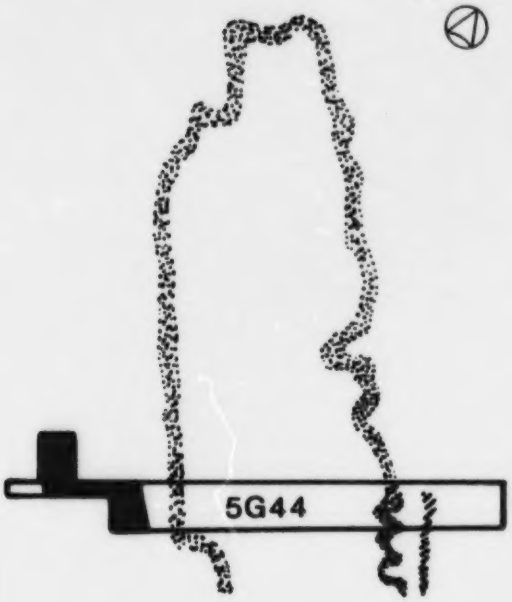

Logs in Fill
Fortification Ditch
Log
Log
Post
Log
Log
Chopped End
Stake in Fascine
Saw Cut Board
Drilled Holes in Post
Log
Limit of Excavation
Split Post
Chopped End
Fascines
South Ditch Wall
0
2 ft.

19 The north face ditch floor plan (5G44).

20 The fascines and other structures (5G44). View to the north. Fascines on left, timber and slanted post structures in centre and unexcavated log fill on the right.

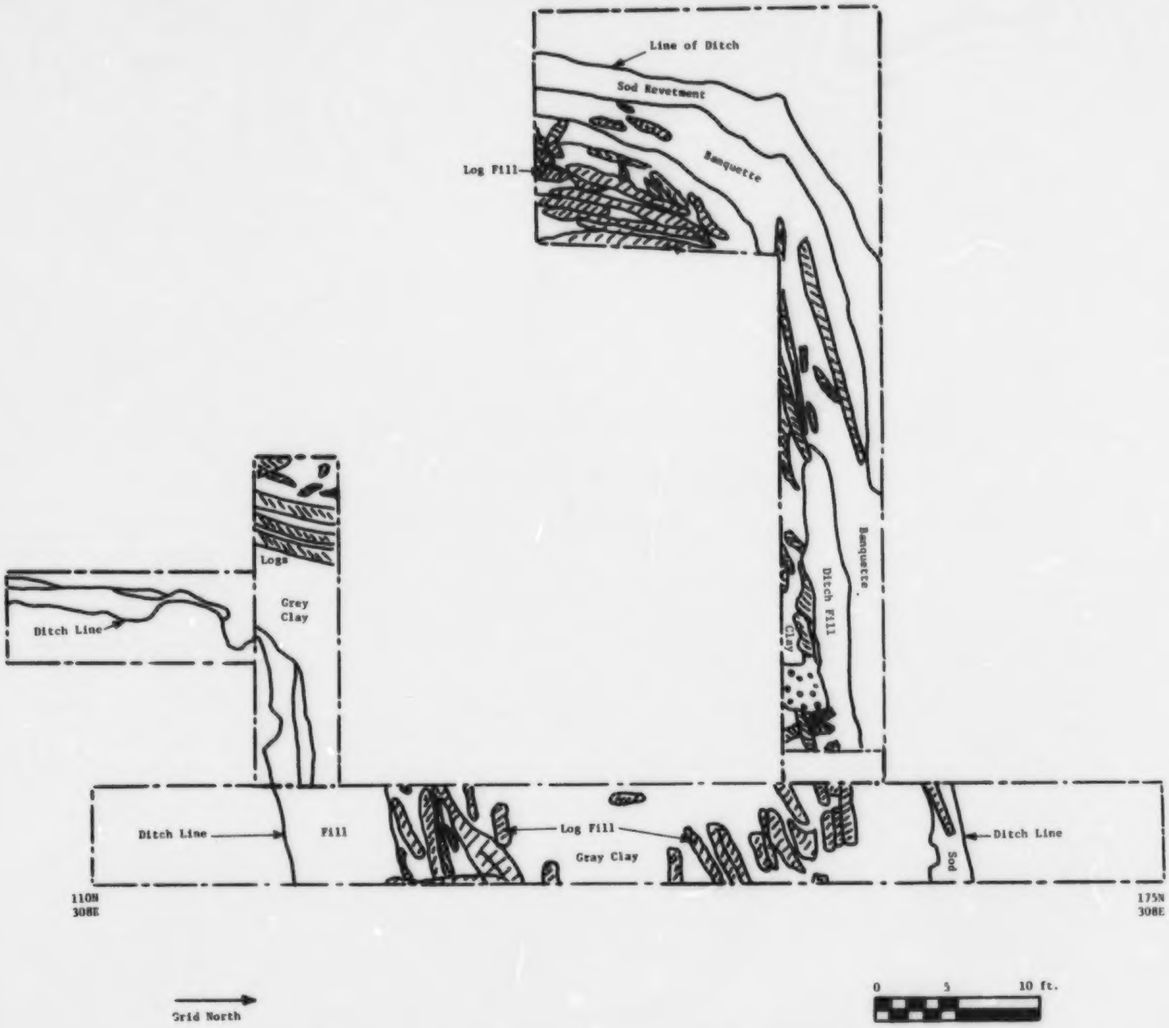

Section through the present Fort shewing the proposed one in Yellow

21 Section drawing from the 1789 plan. Portion of 1789 plan showing profile of the glacis, ditch and rampart structures. Existing structures in black; proposed in outline. (Public Archives Canada.)

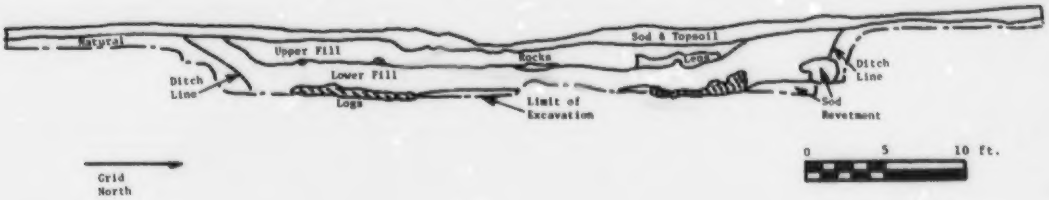


22 The geohm plot of the glacis. Outline of the resistivity area (stippled) is shown in relationship to the excavation through the glacis and fortification ditch (5G44). Ditch as excavated is shown in black. Hatching is probable building foundation.

23 The north face at the northwest shoulder (5G44). General view towards the north (grid northwest) showing the entire operation.


Line of Ditch
Sod Revetment
Log Fill
Banquette
Logs
Grey
Clay
Ditch Line
Banquette
Ditch Fill
Clay
Ditch Line
Fill
Log Fill
Gray Clay
Ditch Line
Sod
110N
308E
175N
308E
Grid North
0
5
10 ft.

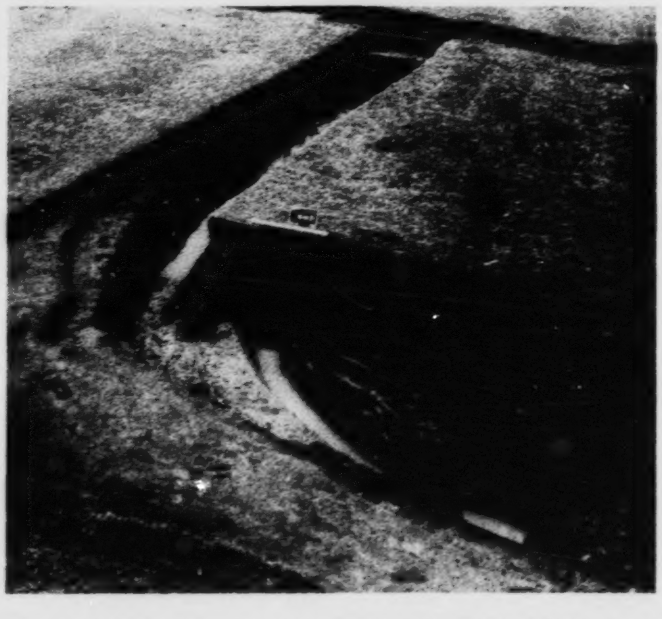
24 Floor plan of the north face, northwest shoulder (5G48).


Natural
Upper Fill
Lower Fill
Ditch Line
Logs
Rocks
Sod & Topsoil
Logs
Limit of Excavation
Ditch Line
Sod Revetment
Grid North
0
5
10 ft.

25 Profile of the north face, northwest shoulder (5G48). Drawing along the west wall on grid line 302E.

26 Logs in the north face, northwest shoulder (5G48). View towards the east showing unexcavated log fill and slanted post in bottom of the fortification ditch.

27a The north face, northwest shoulder area (5G48). View towards the east showing the curve of the ditch at the shoulder angle before excavation.

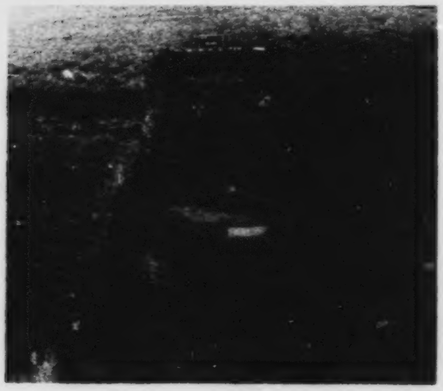


27b The north face, northwest shoulder area (5G48). View towards the east showing the shoulder after excavation. Sod revetment, banquette and unexcavated log fill can be seen.

28a The banquette (5G48). View towards the west showing the shoulder and the banquette with timbers on its surface.

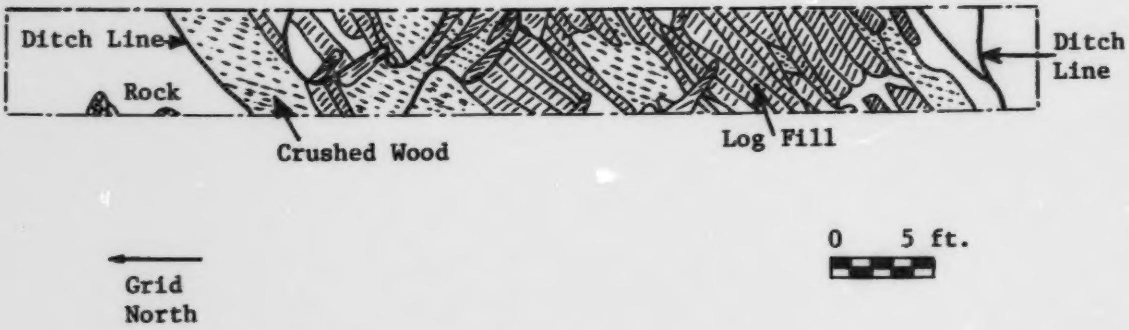
28b The banquette (5G48). View towards the northeast showing the banquette step with cross-section removed.

29 The sod revetment (5G48). View towards the northwest showing the sod revetment of the shoulder of the fortification ditch. Log in the foreground is on the banquette.

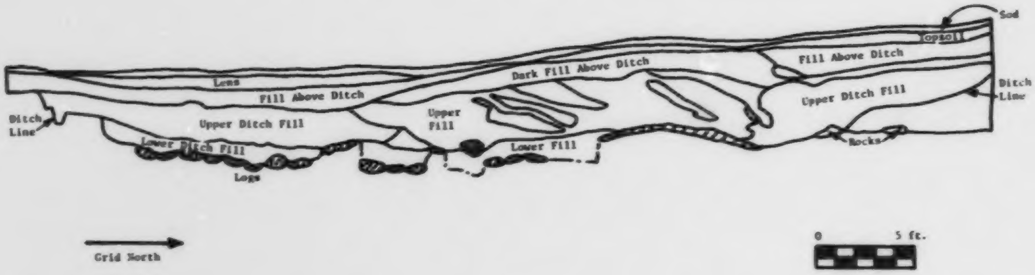


30 Inner curve of the shoulder angle (5G48). View towards the west showing the ditch wall and inner corner of the shoulder angle. Log fill in the unexcavated ditch is visible at the end of the trench.

31 The west salient of the first British fort (5G57). View towards the northeast showing the surface depression and the profile of the ditch fill.

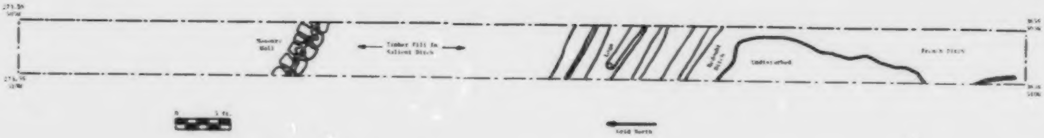

Ditch Line
Rock
Crushed Wood
Log Fill
Ditch Line
0
5 ft.
Grid North

32 Ground plan of the west salient (5G57).

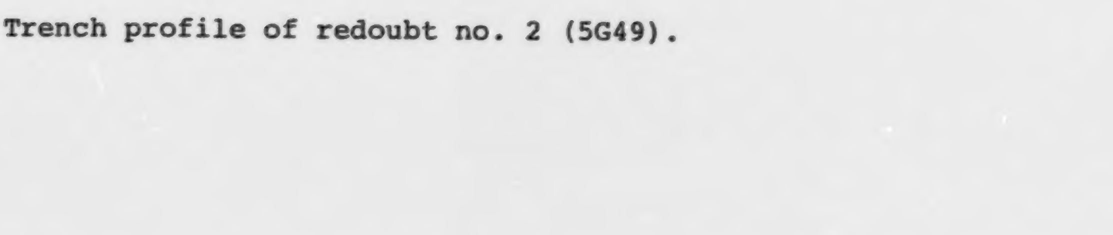

Sod
Topsoil
Fill Above Ditch
Dark Fill Above Ditch
Lens
Fill Above Ditch
Ditch Line
Upper Ditch Fill
Ditch Line
Upper Ditch Fill
Upper Fill
Lower Ditch Fill
Logs
Lower Fill
Rocks
Grid North
0
5 ft.

33 Profile of the west salient (5G57). East wall of the excavation trench.

34 The log level, west salient (5G57). View towards the south showing the cross-bedding in the log fill zone. The surface depression of the west salient feature joins the edge of the Fort Lennox moat in the background.

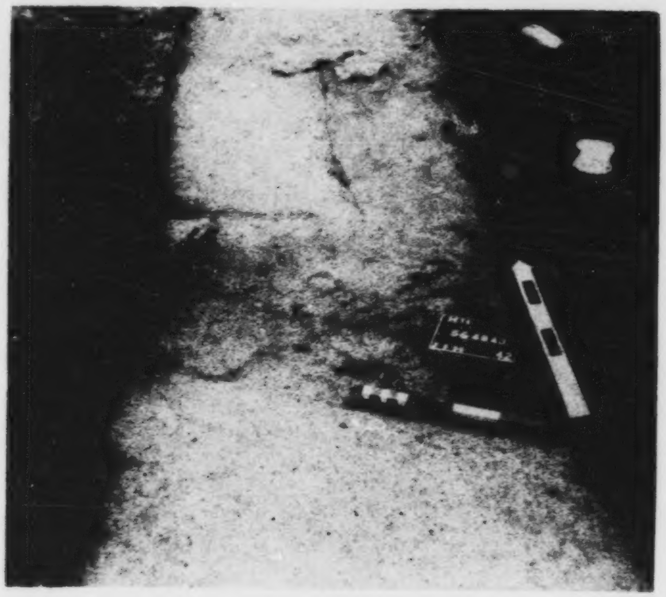

Masonry Wall
Timber Fill In Salient Ditch
Logs
Redoubt Ditch
Undisturbed
French Ditch
0
5 ft.
Grid North

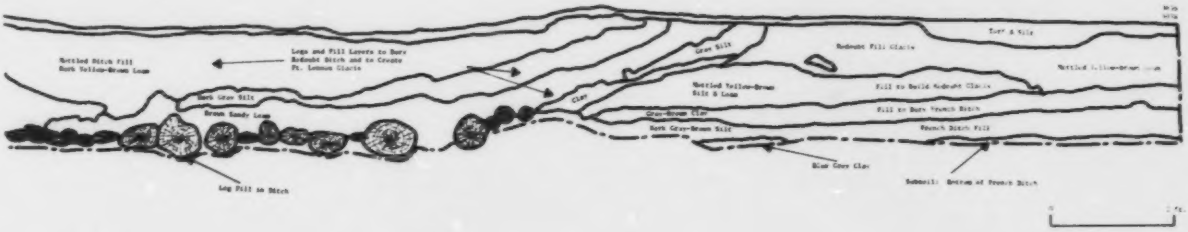
35 Redoubt No. 2, floor plan (5G49).

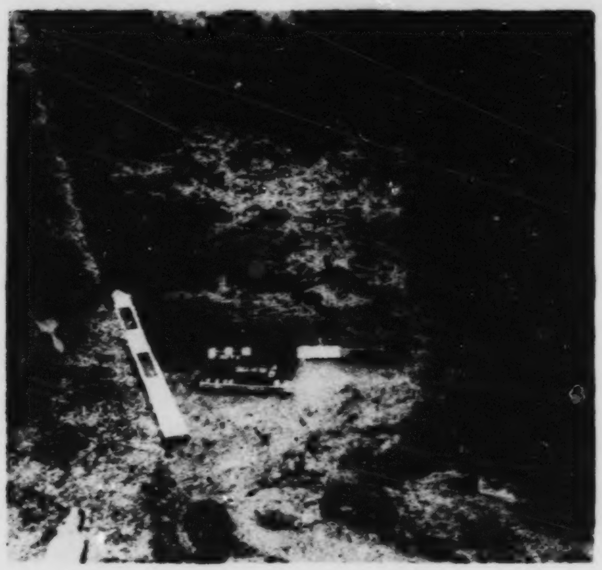

Turf & Silt
Gray-Brown Silt & Loam
Dark Gray Silt
Turf
Disturbed Mottled Ditch Fill
Mottled Fill With Pebble Inclusions
Silt
Wall
Clay
Silt
Gray-Brown Clay
Wall Remnant of Redoubt No. 2
Limit of Excavation

36 Trench profile of redoubt no. 2 (5G49).

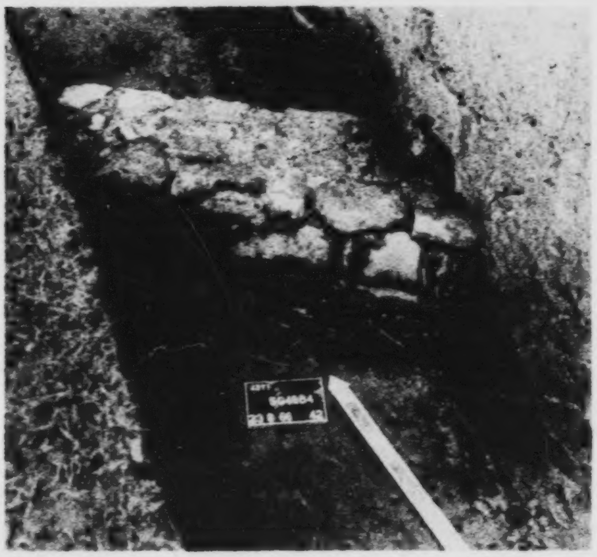
37 View toward the north showing rock debris and the angular soil stain in redoubt No. 2 area (5G49).




Mottled Ditch Fill
Dark Yellow-Brown Loam
Logs and Fill Layers to Bury
Redoubt Ditch and to Create
Ft. Lennox Glacis
Dark Gray Silt
Brown Sandy Loam
Clay
Gray Silt
Redoubt Fill Glacis
Turf & Silt
Mottled Yellow-Brown Loam
Mottled Yellow-Brown
Silt & Loam
Fill to Build Redoubt Glacis
Gray-Brown Clay
Fill to Bury French Ditch
Dark Gray-Brown Silt
French Ditch Fill
Log Fill in Ditch
Blue Gray Clay
Subsoil: Bottom of French Ditch
0
2 ft.



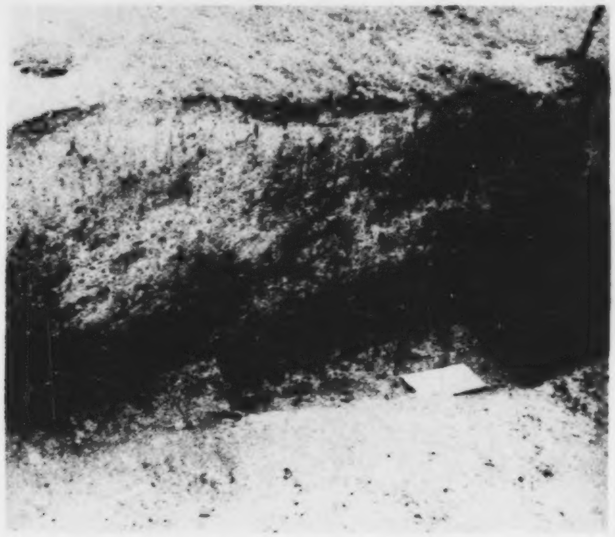
38a The masonry wall (5G49). View towards the north showing log fill or structural remains above the masonry foundation wall of redoubt no. 2. Top of the stone wall is visible in the lower right corner.



38b The masonry wall (5G49). View of the masonry wall after removal of overlying strata.

39a Redoubt no. 2 excavation area (5G49). General view of the operation towards the north. Wall of the old French fortification ditch exposed in the foreground. Surface depression and log fill of redoubt no. 2 ditch in centre and masonry wall of the redoubt is at the end of the trench.

39b Redoubt no. 2 excavation area (5G49). View towards the south showing the old French fortification ditch. Log fill of redoubt no. 2 ditch is in the foreground; French ditch and its wall in background.

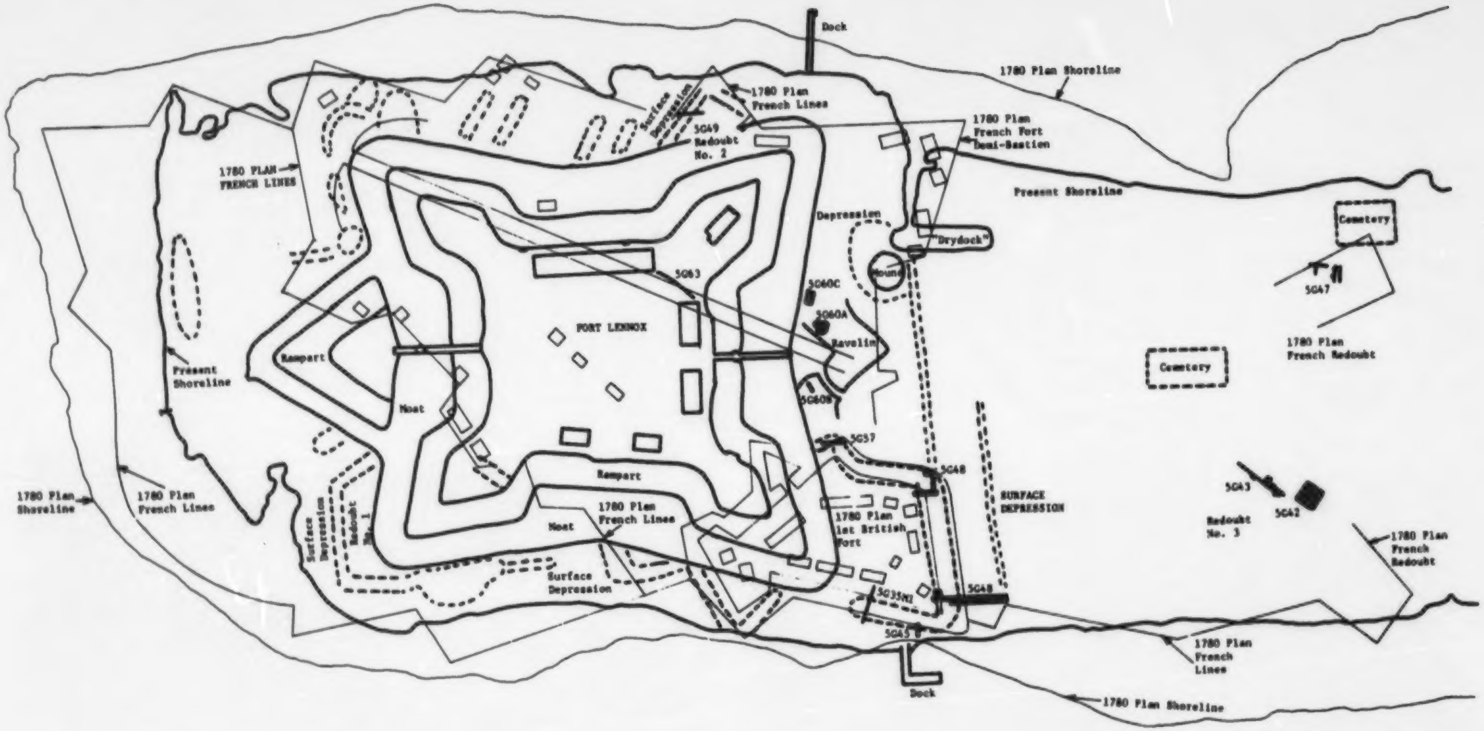


40 Redoubt no. 2 profile (5G49). View towards the southeast showing the fill strata. Sloping fill on left is in redoubt no. 2 ditch; level fill on the right is in the old French ditch.

41 Wooden structure in the north ravelin. (Korvemaker 1968: Appendix I,a.)

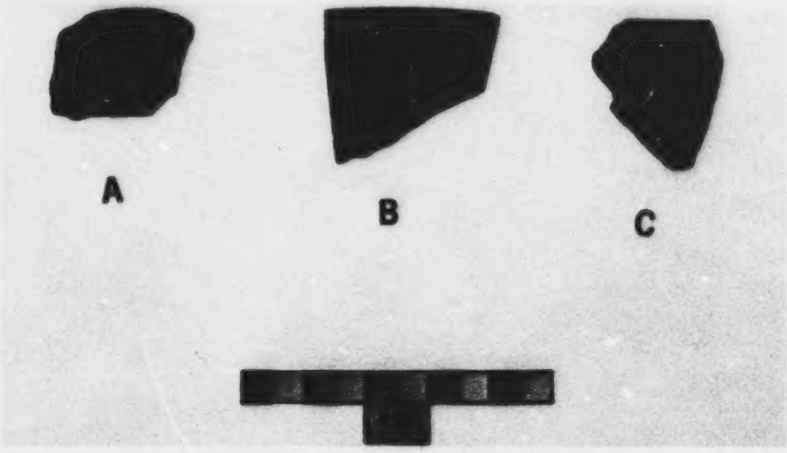
42 Wood beams in the sally port. (Korvemaker 1968: Appendix I, b.)

43 Wood feature parallel to moat, near the north ravelin. (Korvemaker 1968: Appendix I, c.)

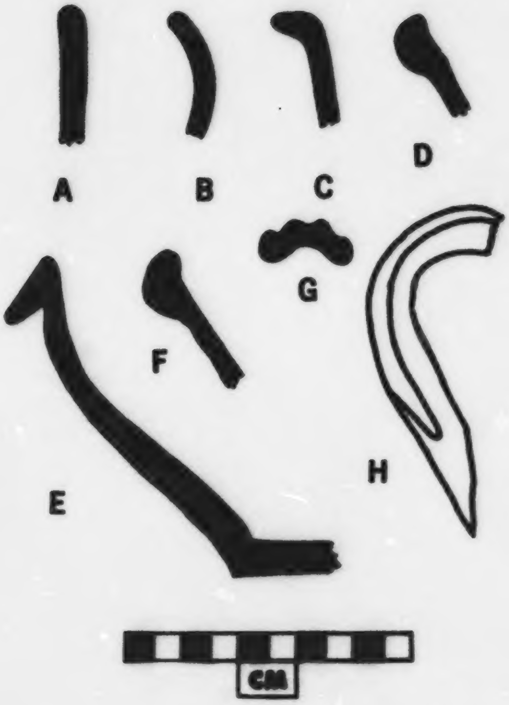

Dock
1780 Plan Shoreline
1780 Plan French Lines
Surface Depression
5G49 Redoubt No. 2
1780 Plan French Fort Demi-Bastion
Present Shoreline
1780 PLAN FRENCH LINES
Depression
"Drydock"
Mound
Cemetery
5G47
5G63
5G60C
5G60A
Ravelin
FORT LENNOX
1780 Plan French Redoubt
Cemetery
Rampart
Present Shoreline
Moat
5G60B
5G57
5G48
SURFACE DEPRESSION
5G43
5G42
Redoubt No. 3
Rampart
1780 Plan Shoreline
1780 Plan French Lines
Surface Depression
Redoubt No. 1
Moat
1780 Plan French Lines
1780 Plan 1st British Fort
1780 Plan French Redoubt
Surface Depression
5G35N2
5G48
5G45
1780 Plan French Lines
Dock
1780 Plan Shoreline

44 Map of the south half of Ile-aux-Noix. Fort Lennox and contemporary surface depressions are shown in heavy lines. 1966 excavations shown in black. The first French fort, taken from the 1780 British plan is shown in light lines. Correlation is on the basis of excavated identification of the northern end of the first British fort.

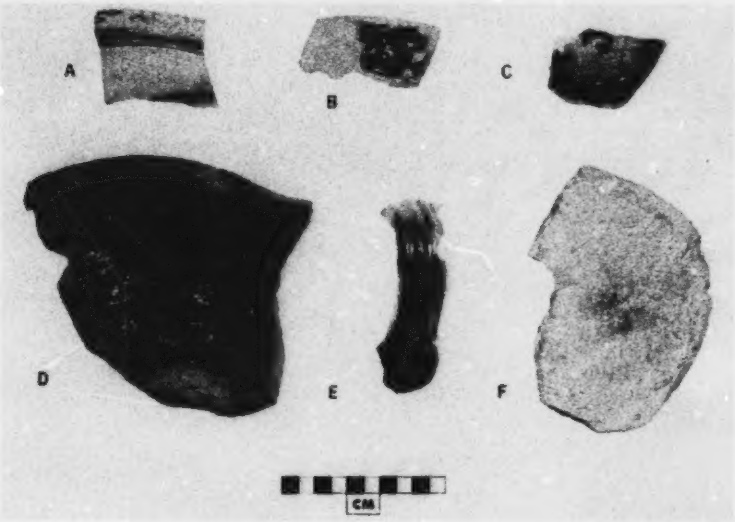
45 Cannonball impact crater (5G53A). Profile view of test pit in the northern end of the island. Fragments of a hollow cannonball were recovered from the impact crater seen in the profile of the excavation. View to the west.



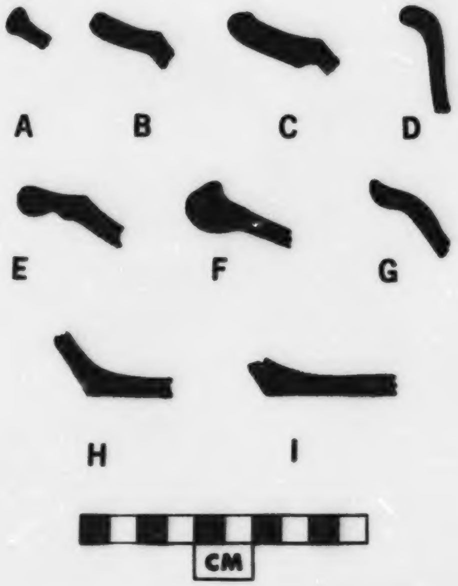
46 Unglazed earthenware: a, olive jar rim; b, c, unglazed coarse earthenware rims.



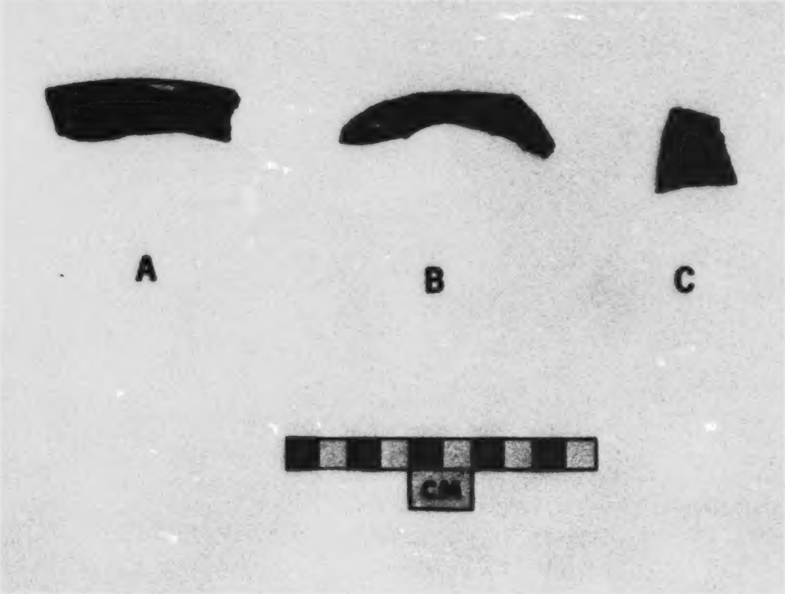
47 Coarse earthenware rim profiles: a, unglazed; b-h, brown?olive glazed coarse earthenware.



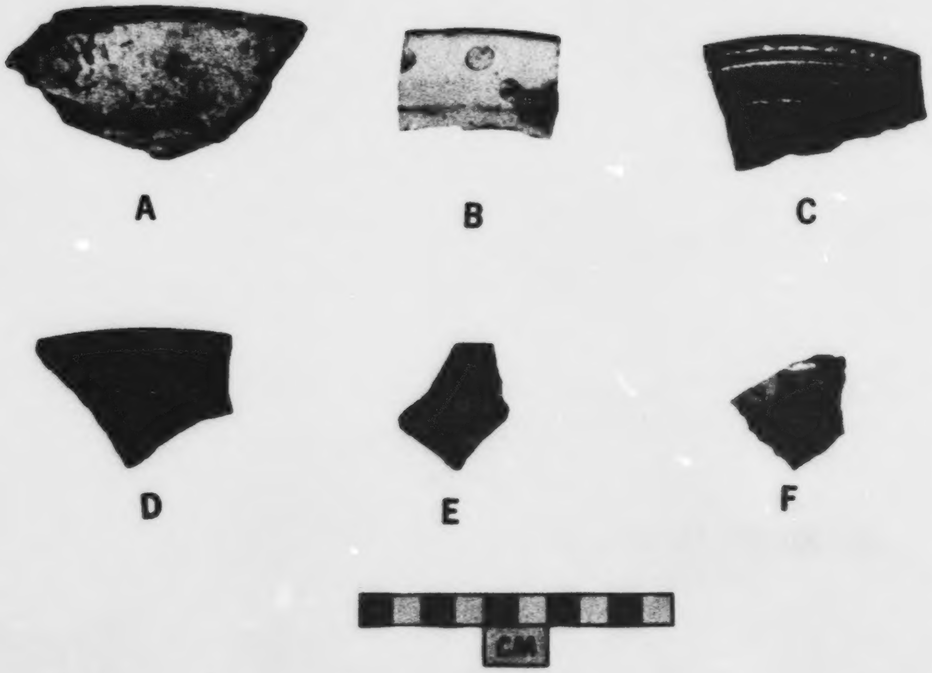
48 Brown/olive glazed coarse earthenware: a, exterior, rim; b, interior, rim; c, exterior, base; d, interior, bowl; e, handle; f, interior, base.



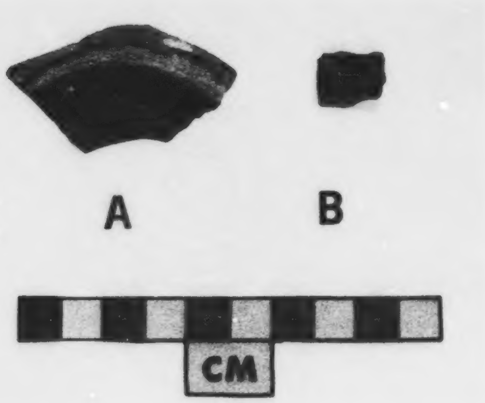
49 Coarse earthenware profiles: a, plain glazed; b-d, plain slipware; e-i, trailed slipware.



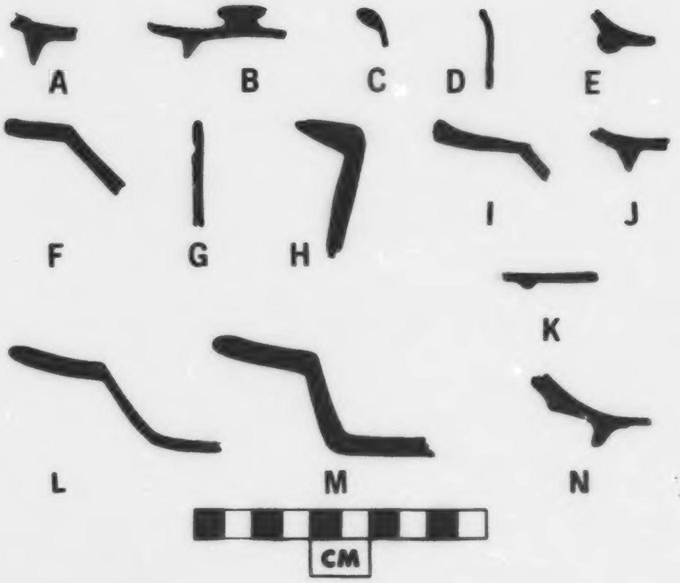
50 Plain glazed coarse earthenware: a, rim; b, c, body sherds.



51 Slipwares: a, b, plain slipware; c, trailed slipware, rim section lacking decoration; d, e, trailed slipware; f, combed slipware.



52 Delftwares: a, plain; b, decorated.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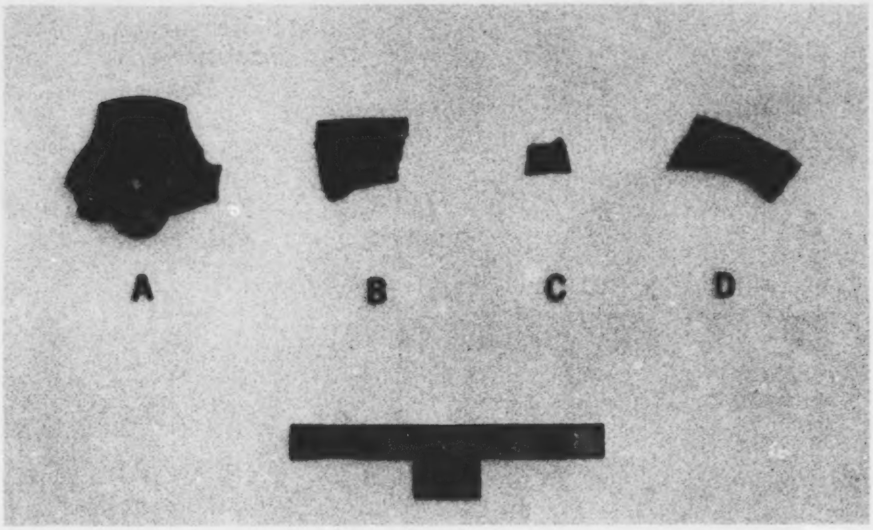
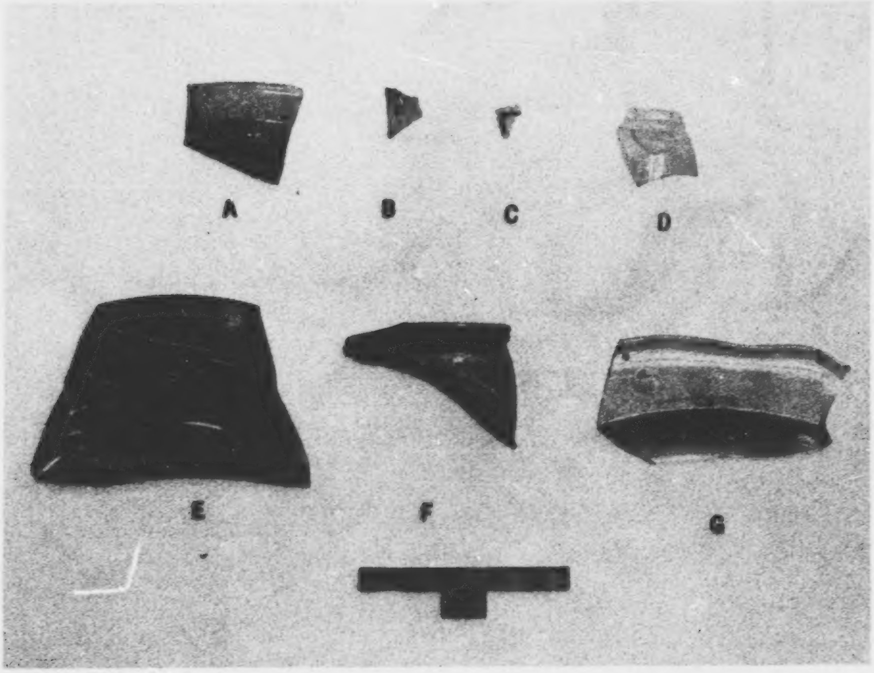
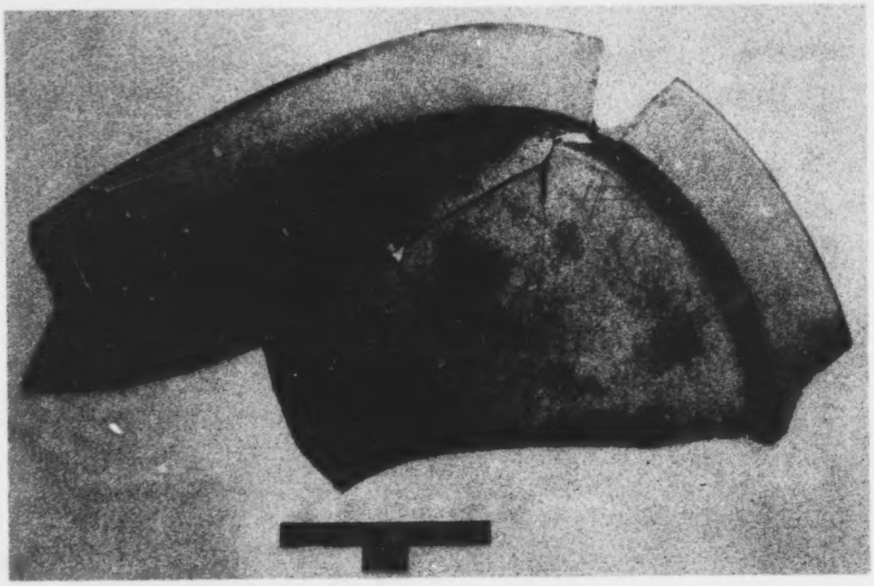
53 Delftware and creamware profiles: a, plain delftware; b, c, tortoiseshell; d, variegated; e, green glazed; f-n, creamware.



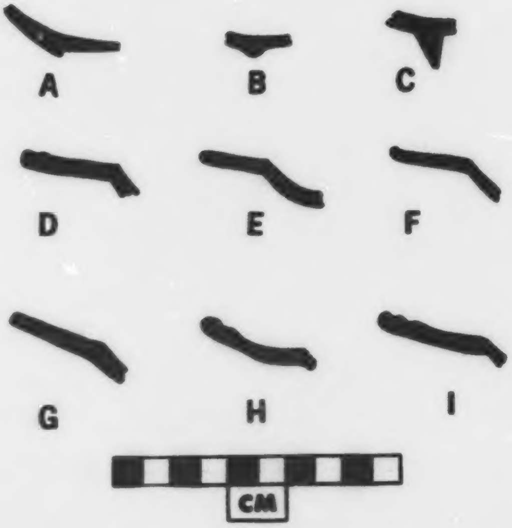
54 "Clouded" wares and green glazed creambodied earthenware: a, tortoiseshell; b, variegated; c, yellow; d, green glazed.



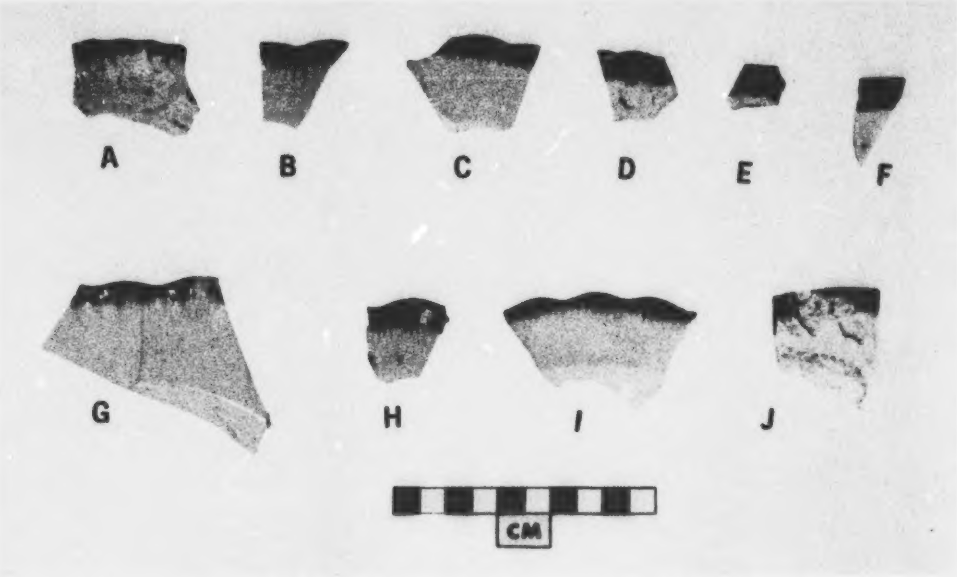
55 Creamware: a, brim; b, feather edge; c, moulded dots; d, grooved rim; e, plain brim; f, flanged rim (chamber pot?); g, scalloped rim.



56 Creamware platter.

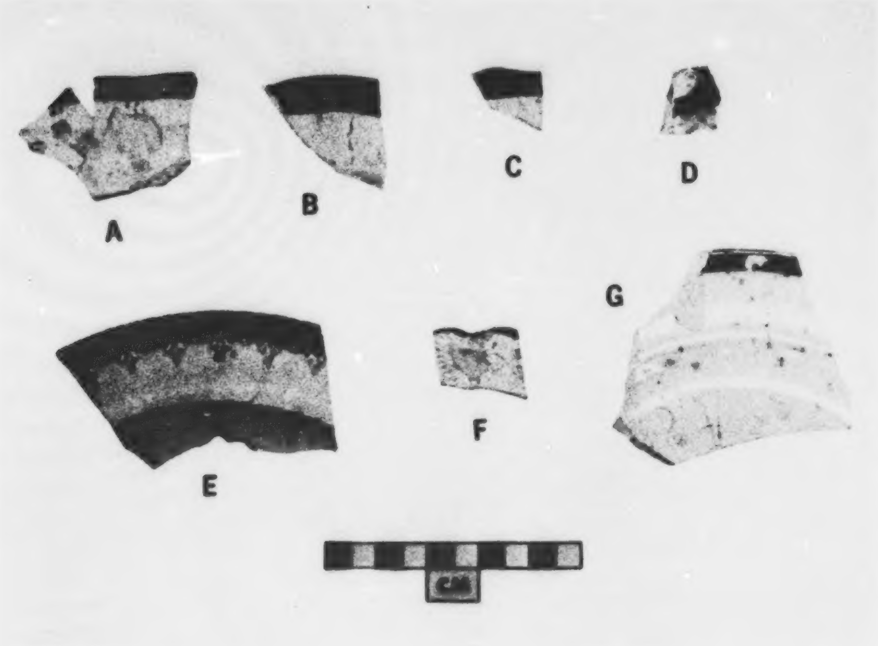


57 Pearlware, shell-edge and moulded earthenware profiles: a-c, undecorated pearlware; d, e, blue shell-edge; f, green shell-edge; g, red shell-edge; h, blue, moulded; i, green moulded.



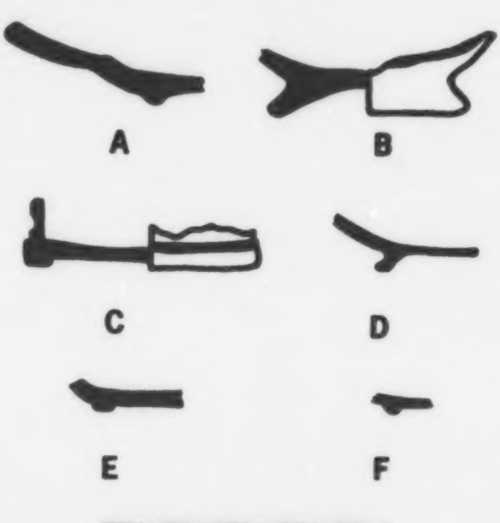
58a Shell-edged pearlware; a-g, blue shell-edged; h-i, green shell-edged; j, red, shell-edged refined white earthenware.

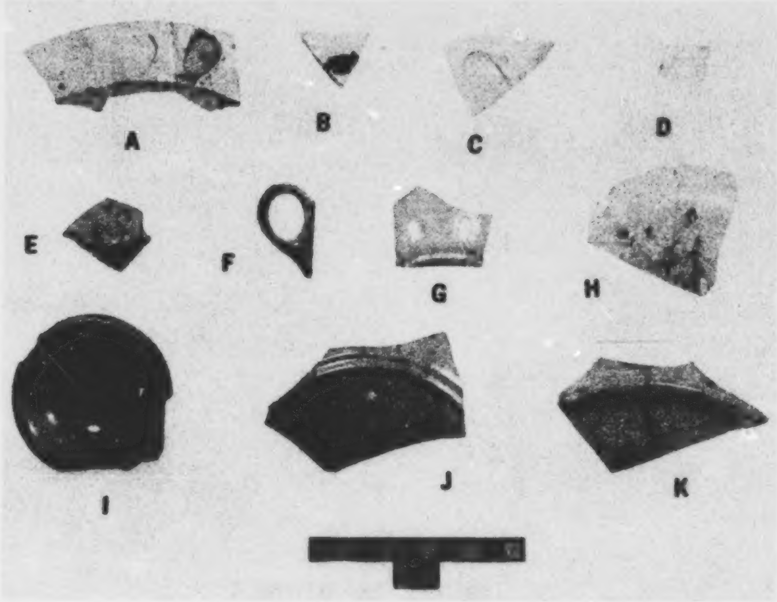
58b Shell-edged pearlware, showing impressed anchor mark.



59 Moulded refined earthenware: a-d, blue; e, green; f, red; g, blue-banded.

60 Refined white earthenware (blue tint) profiles: a, blue-banded; b-g, undecorated.

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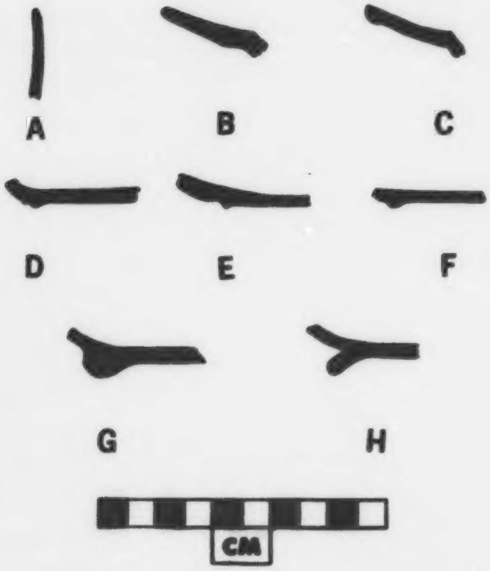
61 Refined white earthenware: a-d, rims; e, moulded vessel; f, handle; g-k, bases; h, blue-tinted glaze in parallel stilt marks.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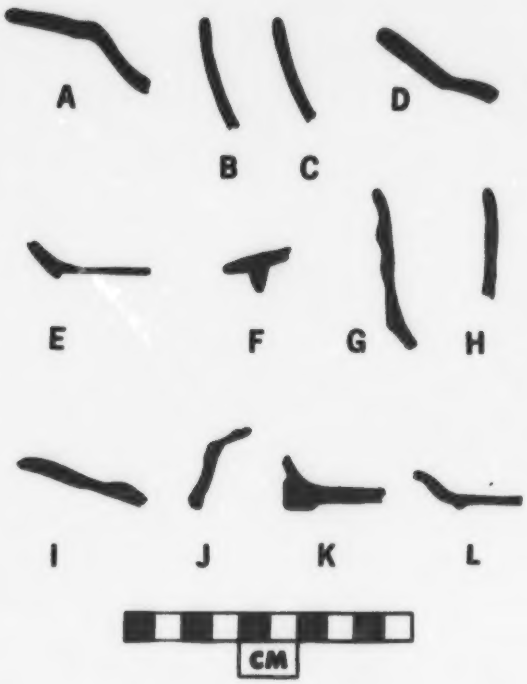
62 Refined white earthenware profiles: a-h, plain, refined white earthenware.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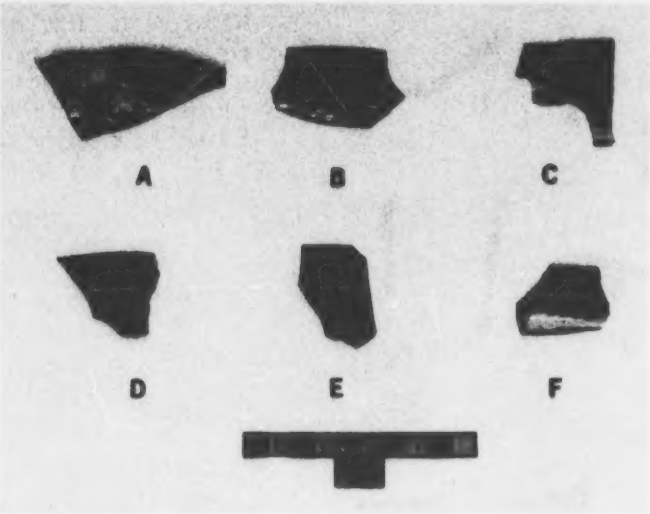
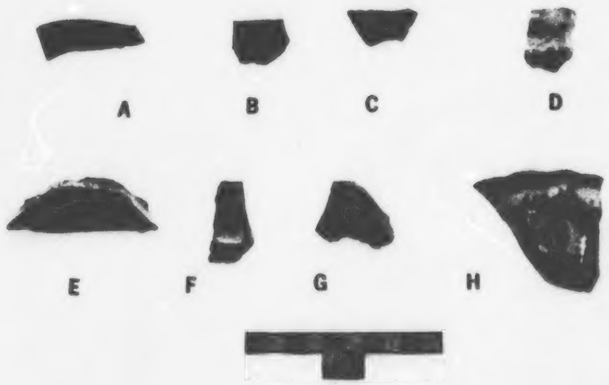
63 Willow and blue transfer-printed earthenware profiles: a, Willow pattern; b-e, blue transfer-printed; f-l, light blue transfer-printed.

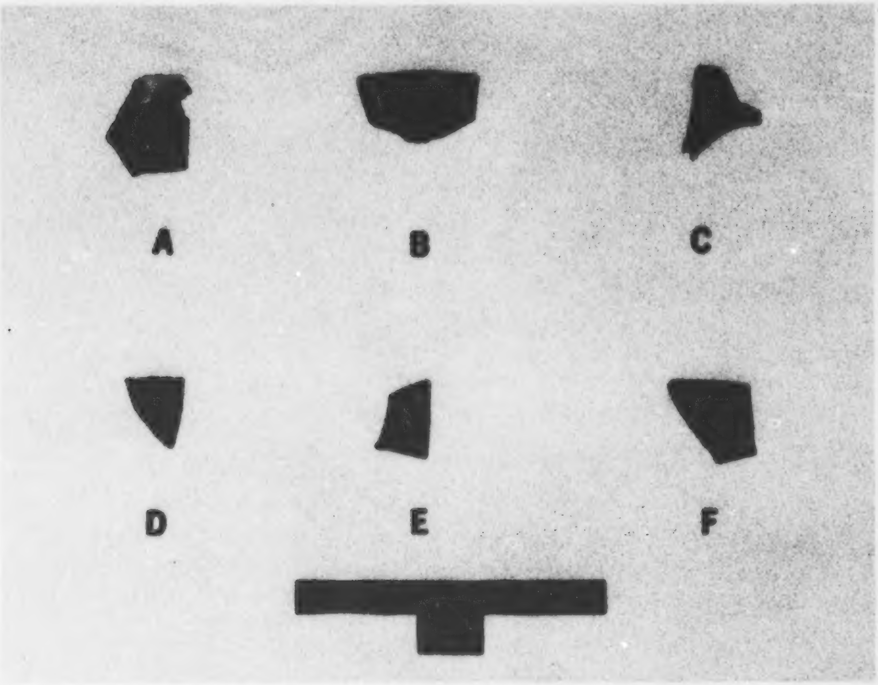
64 Willow pattern transfer-printed earthenware: a, b, rims; c-f, plate bottom sherds.



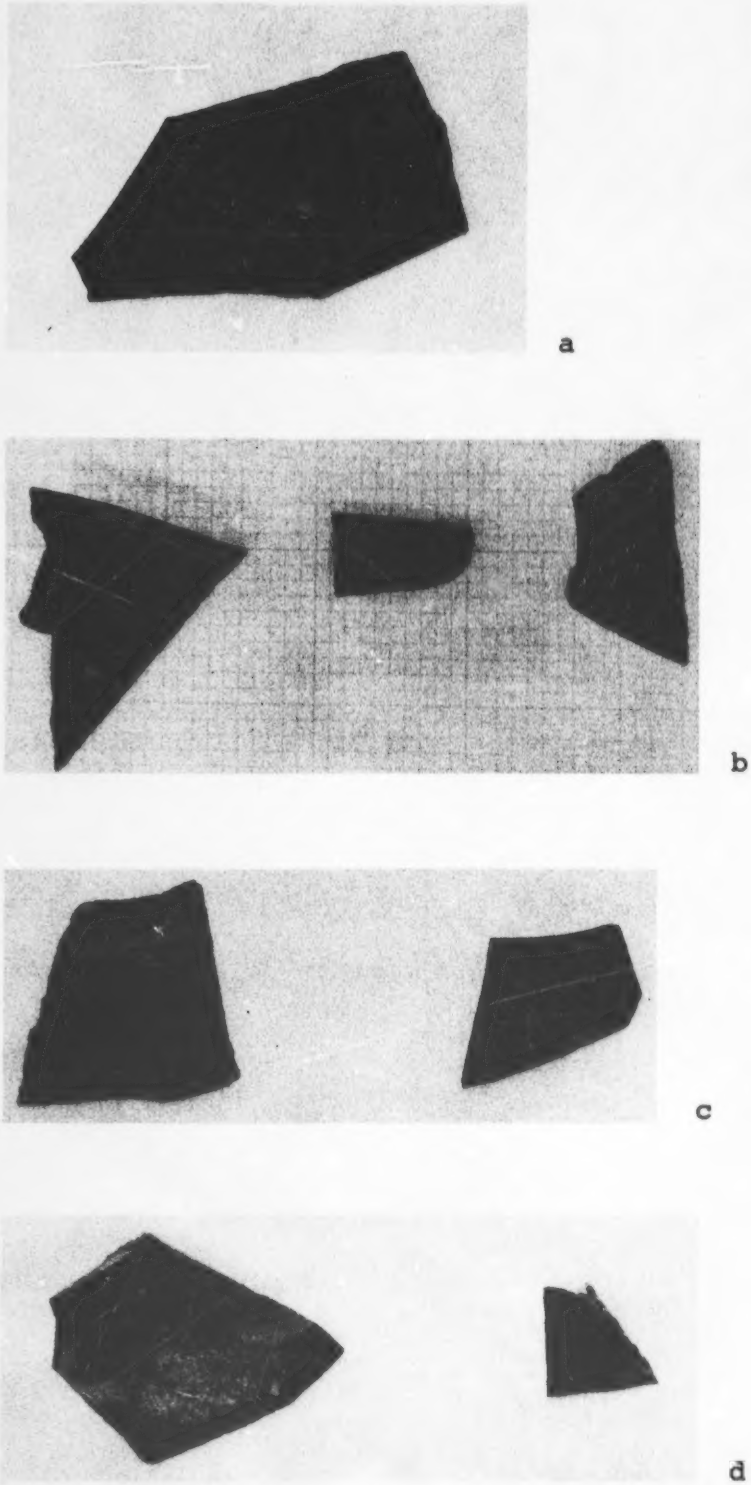
65 Blue transfer-printed earthenware: a-e, rims; f, body sherd.



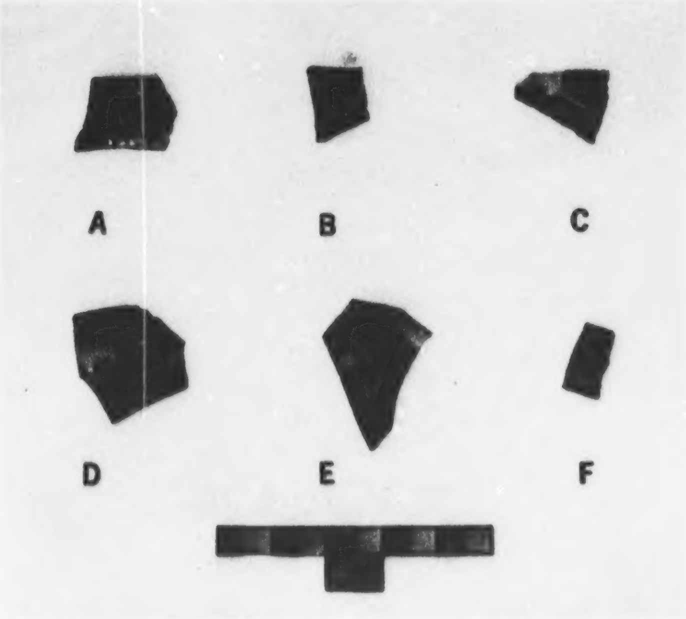
66 Light blue transfer-printed earthenware: a-c, body sherds; d, moulded; e-g, bases; h, rim.



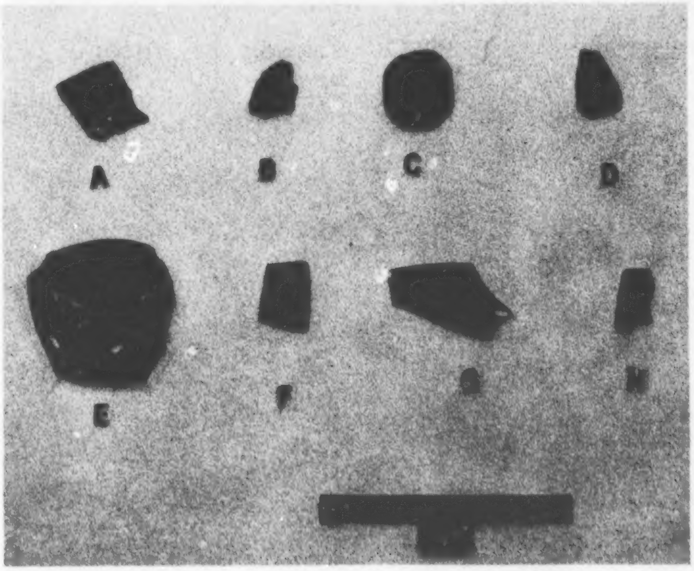
67 Miscellaneous-coloured transfer-printed earthenware: a, red; b, black; c, green; d, purple; e, purple/black; f, polychrome, green and blue.



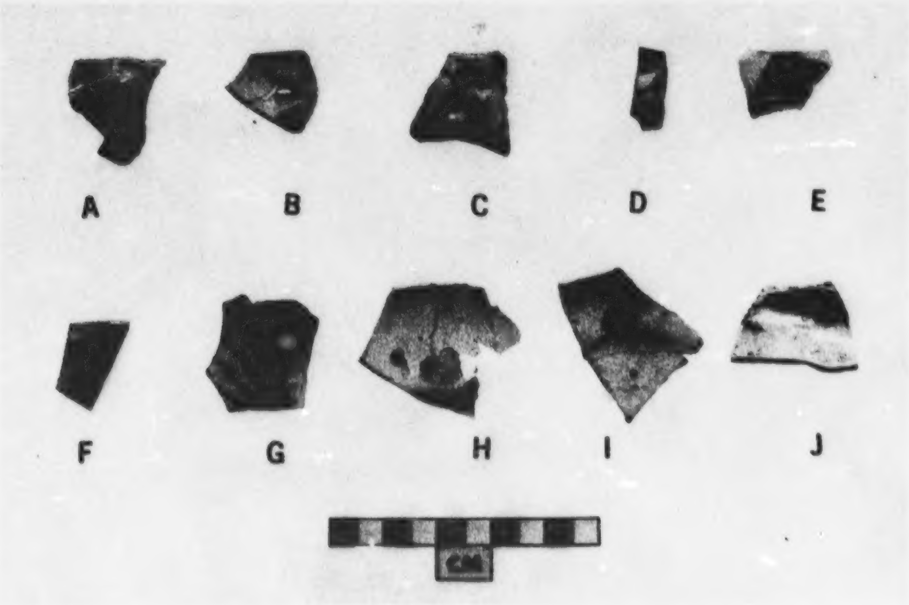
68 Makers' marks: a, impressed DAVENPORT and anchor; b, blue; c, green; d, brown.



69 Brown transfer-printed earthenware: a, rim; b-f, body sherd.



70 Flowing blue and sponge-decorated earthenware: a-d, flowing blue; e-h, sponge decorated; e-g, blue; h, red.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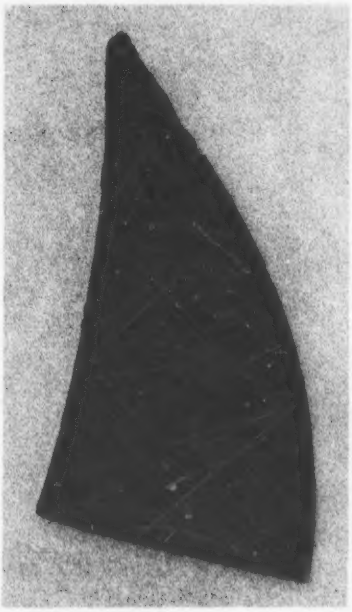
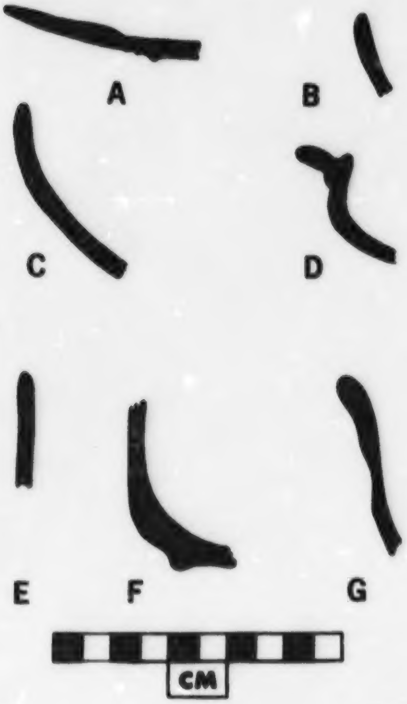
71 Miscellaneous painted refined earthenware: a, b, blue; c-j, polychrome.

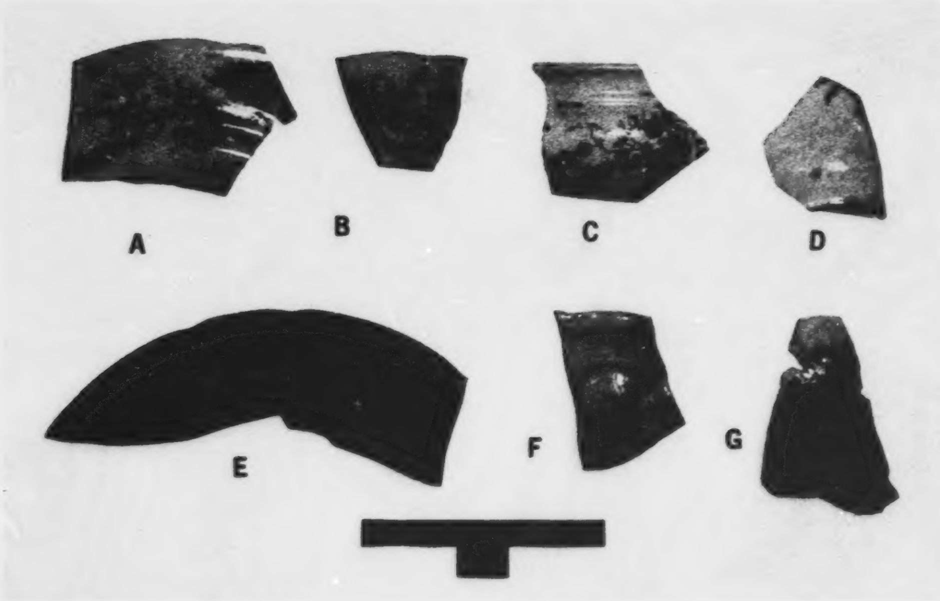


72 Turner ironstone (?), impressed mark.

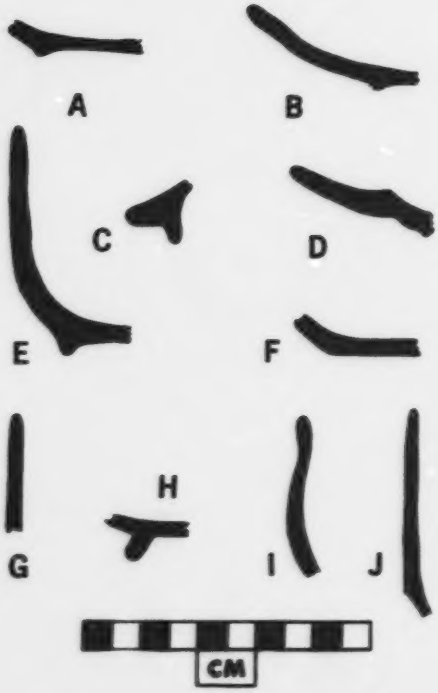


73 Dunn, Bennett & Co. ironstone profiles: a, plate brim; b, c, bowls; d, serving vessel; e, f, cups; g, serving vessel.

74 Dunn, Bennett & Co. mark.



75 Dunn, Bennett & Co. ironstone; a, b, e, plates; d, cup; c, f, serving vessels; g, bowl.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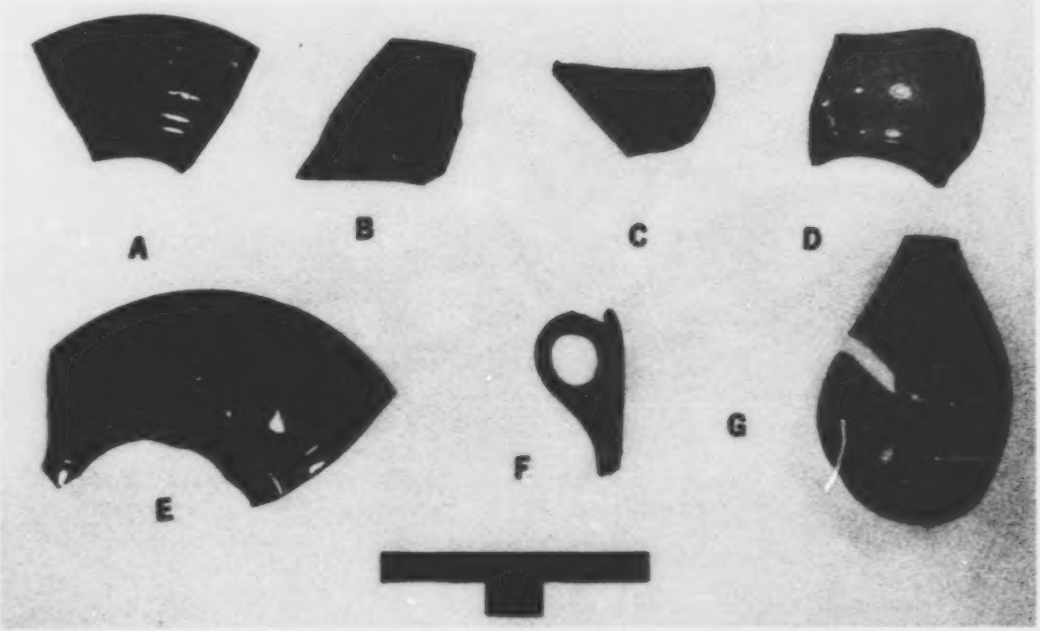
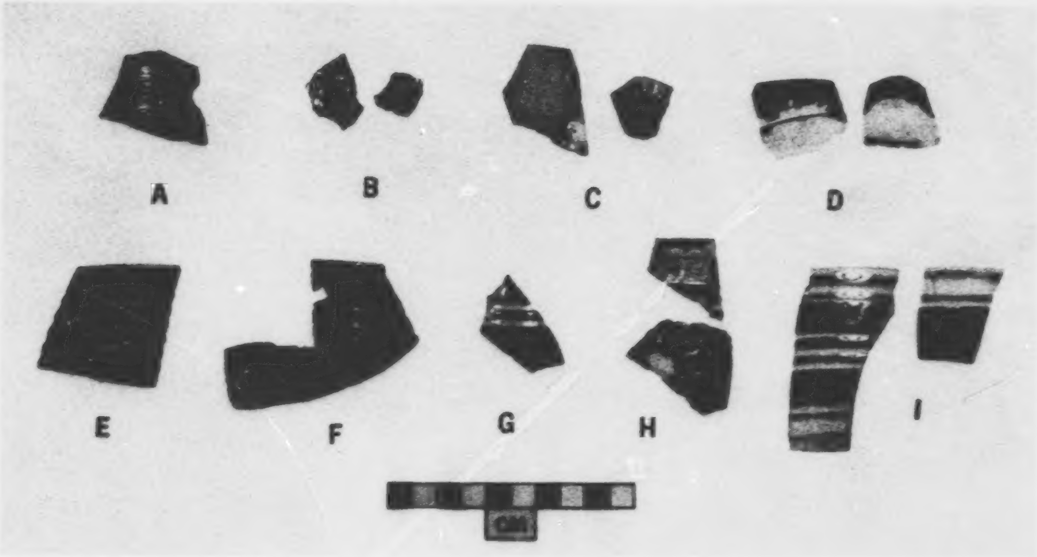
76 Miscellaneous earthenware profiles: a, stoneware China Co.; b-f, plain white ironstone; g, h, banded yellow ware; i, j, annular decorated.

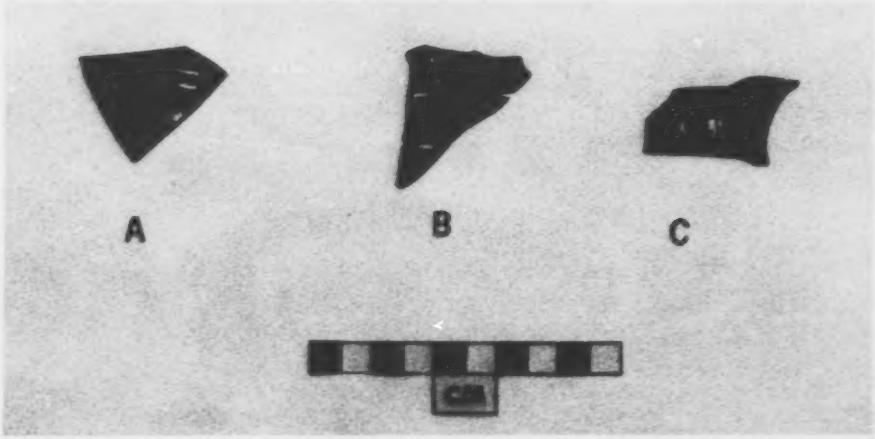
77 Stoneware China Co., St. Johns, Quebec, mark.



78 White ironstone: a, saucer; b, plate brim; c, flat pannelled cup; d, cup; e, saucer; f, cup handle; g, cup.



79 Banded yellow ware, annular decoration and mocha: a-c, banded yellow ware; b, moulded; d, mocha; e-i, annular decorated.

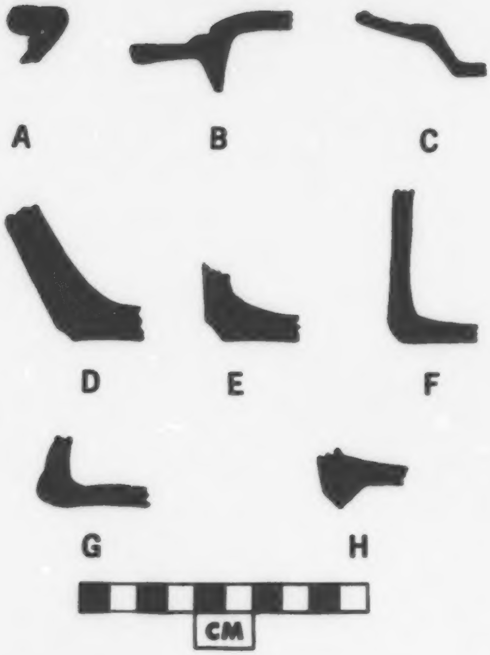


80 Miscellaneous red refined earthenware: a, b, unidentified; c, Cyples ware (?).

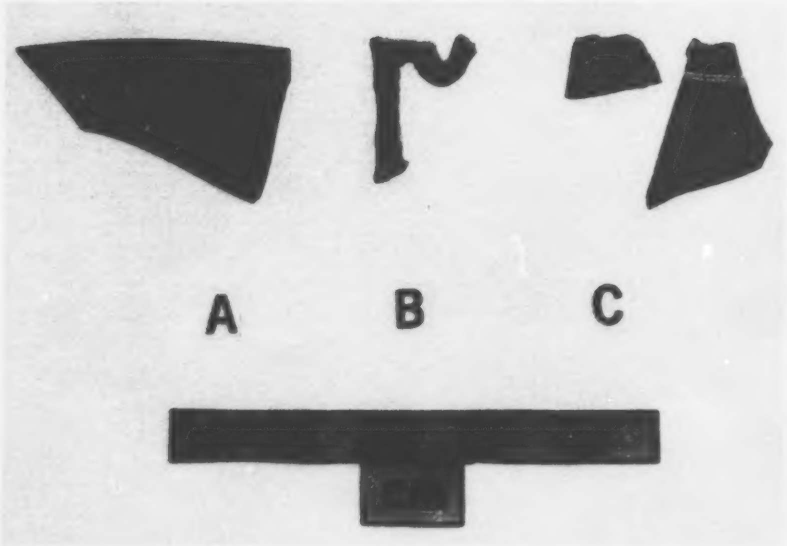
81 French stoneware.

82 Westerwald stoneware, chamber pot rim.

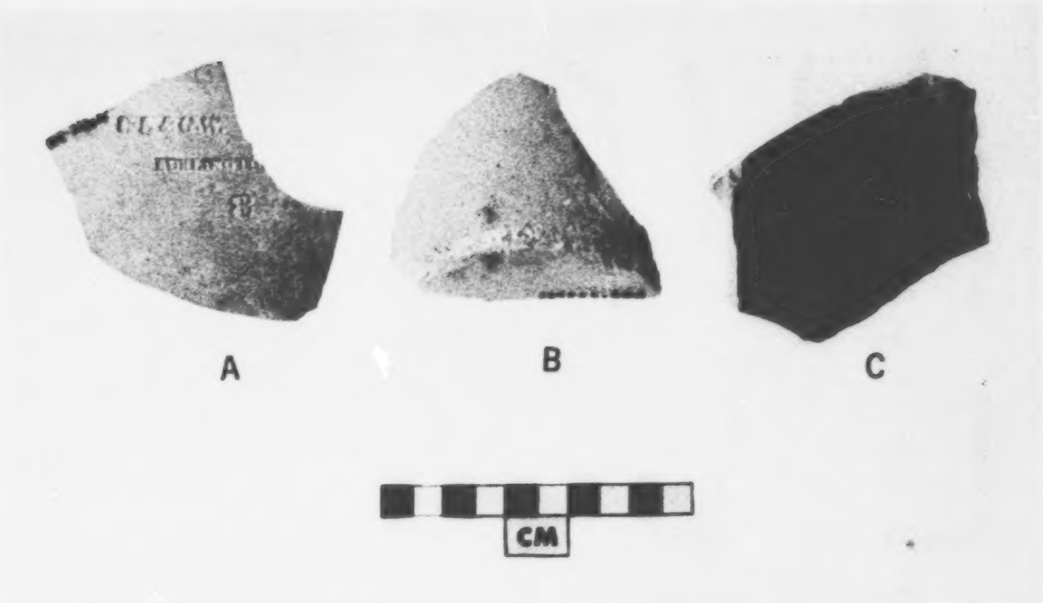
83 Eighteenth-century brown stoneware: a, moulded; b, plain body sherd.



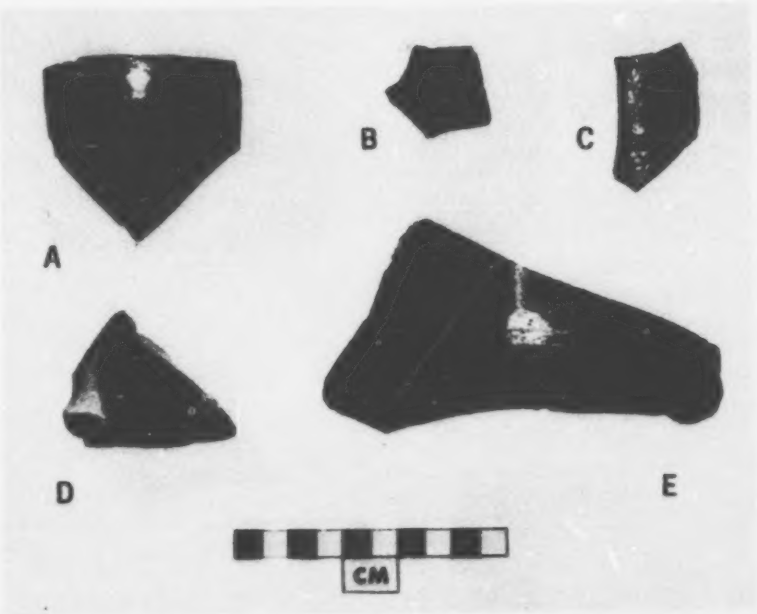
84 Stoneware profiles: a, Westerwald; b, 18th-century brown salt-glazed; c, white salt-glazed; d, Farrar stoneware; e, f, Albany slip stoneware; g, h, unidentified.



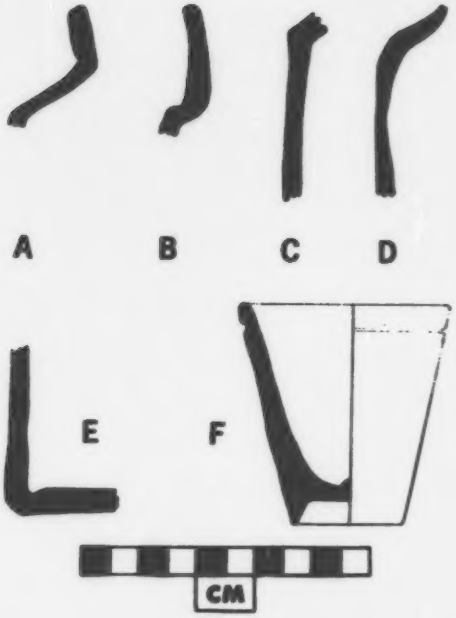
85 White salt-glazed stoneware: a, thin plain rim; b, moulded handle with spatter blue decoration; c, moulded plate brim.



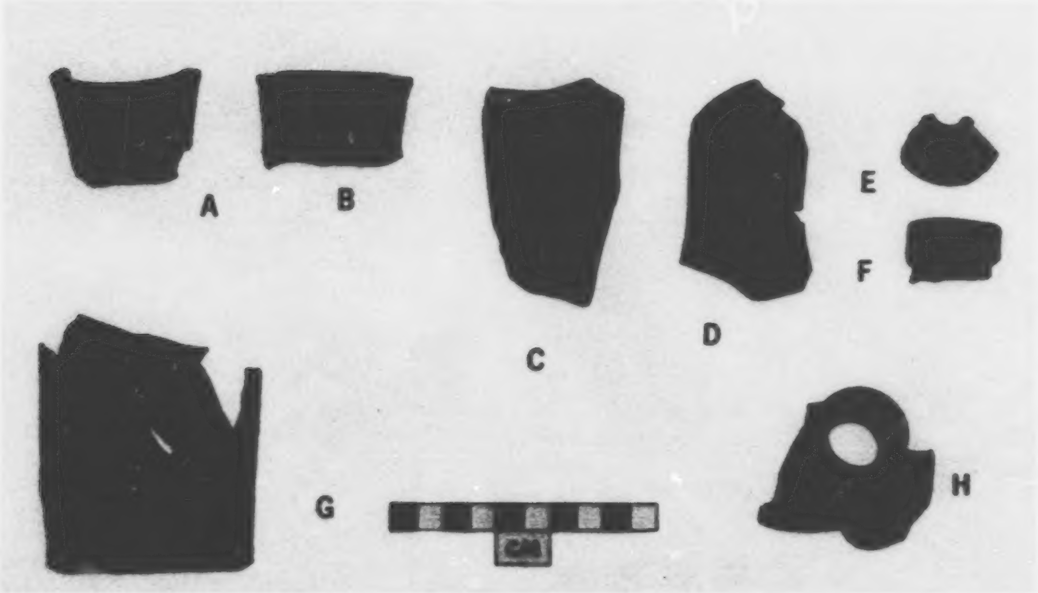
86a Farrar (?) stoneware: a, impressed mark; b, base, exterior; c, slipped interior.



86b Miscellaneous Albany slipped stoneware: a-c, exteriors, body sherds; d, interior, base; e, exterior, base.

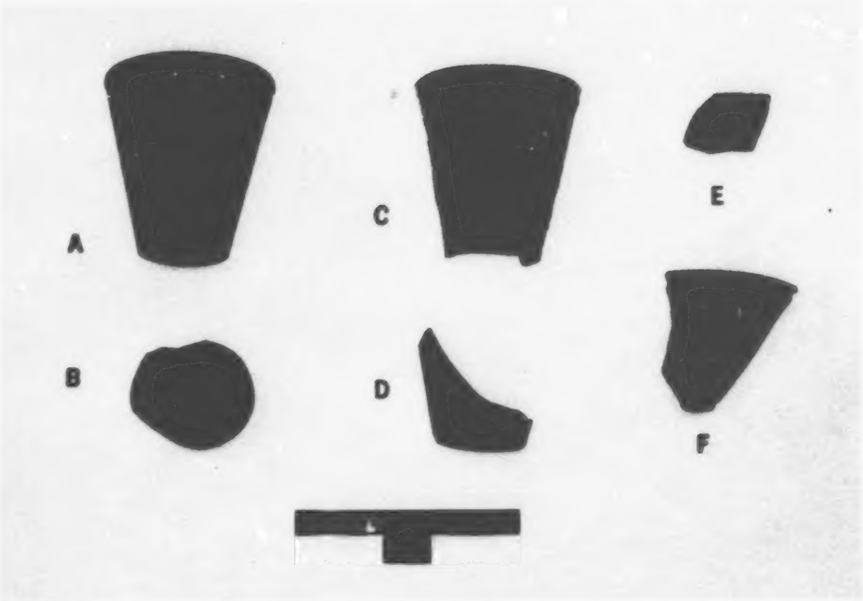


87 19th-century brown stoneware profiles: a-e, bottles; f, container.

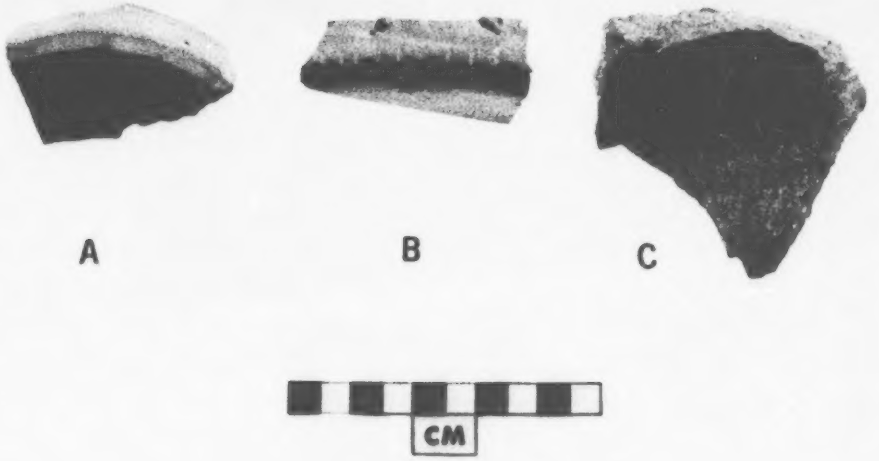


88 19th-century brown stoneware bottles: a-b, wide mouth rims; c, d, shoulders; e, ink well rim; f, collared bottle rim; g, bottle base; h, bottle rim, top view.

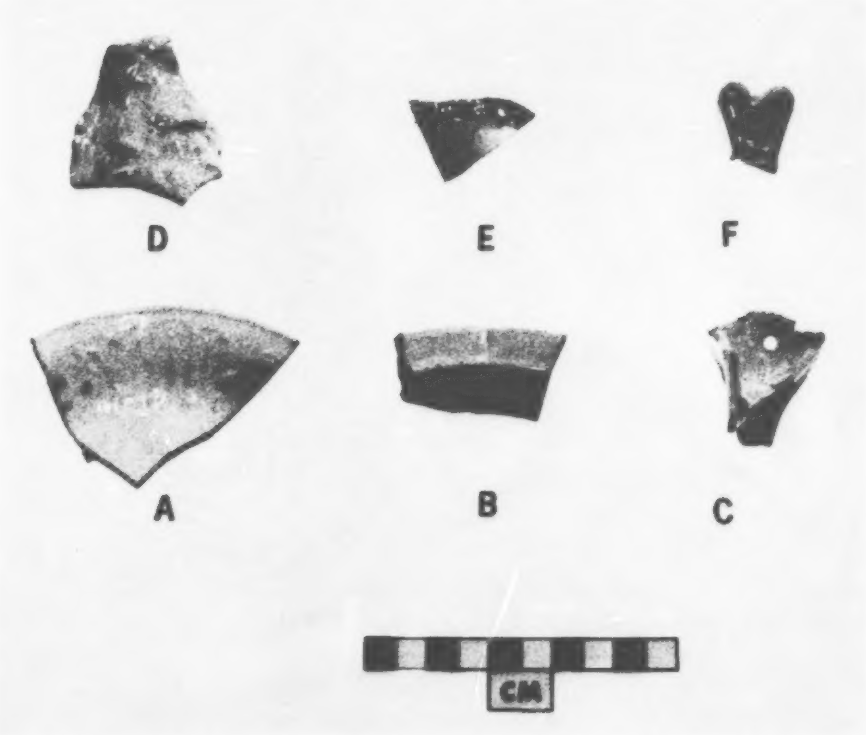
89 19th-century brown stoneware bottle, impressed mark.



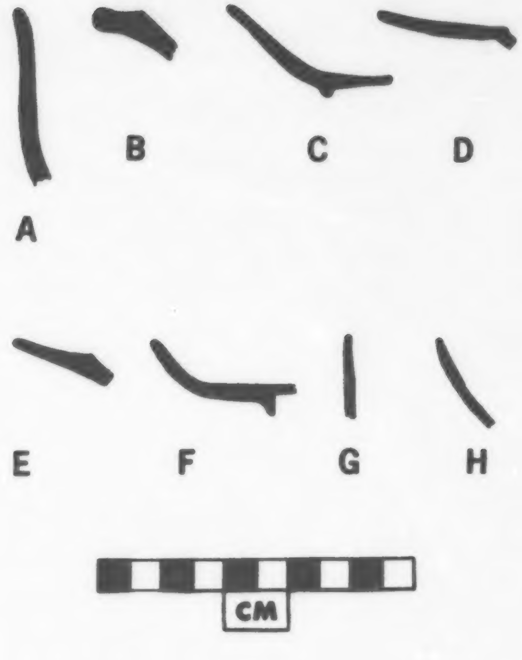
90 19th-century brown stoneware containers: a, complete example; c, light cream coloured; e, f, rims; b, d, bases.



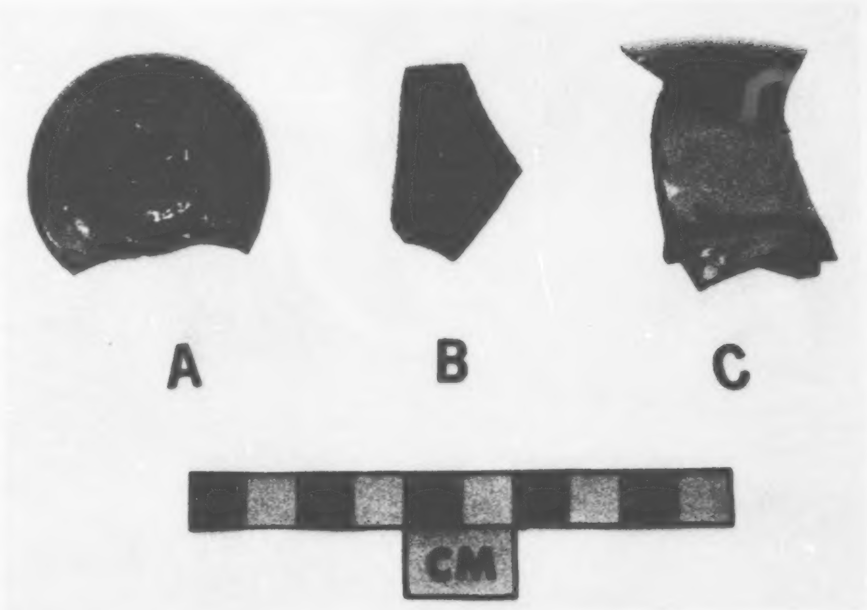
91 Miscellaneous unidentified stoneware: *a*, grey-glazed base with V wedge footstand; *b*, unglazed, exterior, base; *c*, tile fragment.



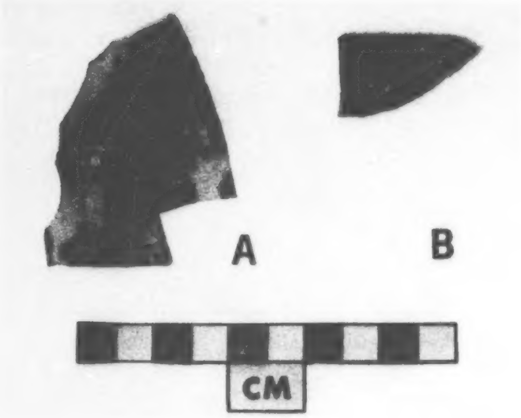
92 Semi-porcelain: *a*, saucer; *b*, rim; *c*, teapot spout; *d*, moulded vessel; *e*, moulded plate brim; *f*, moulded finial or knob.



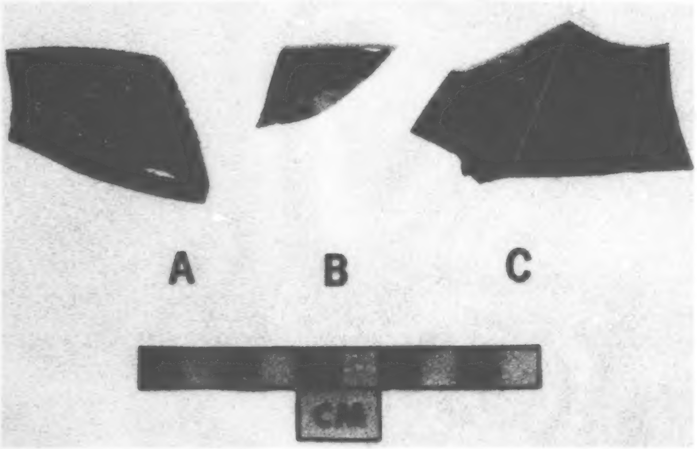
93 Porcelain profiles: *a*-*d*, semi-porcelain; *e*, *f*, European hardpaste, overglaze; *g*, Chinese polychrome; *h*, Chinese blue and white.



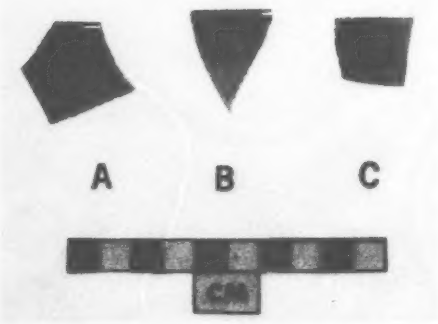
94 European porcelain: *a*, Child's teaset saucer; *b*, *c*, overglaze enameled.



95 European porcelain: a, b, underglaze blue.

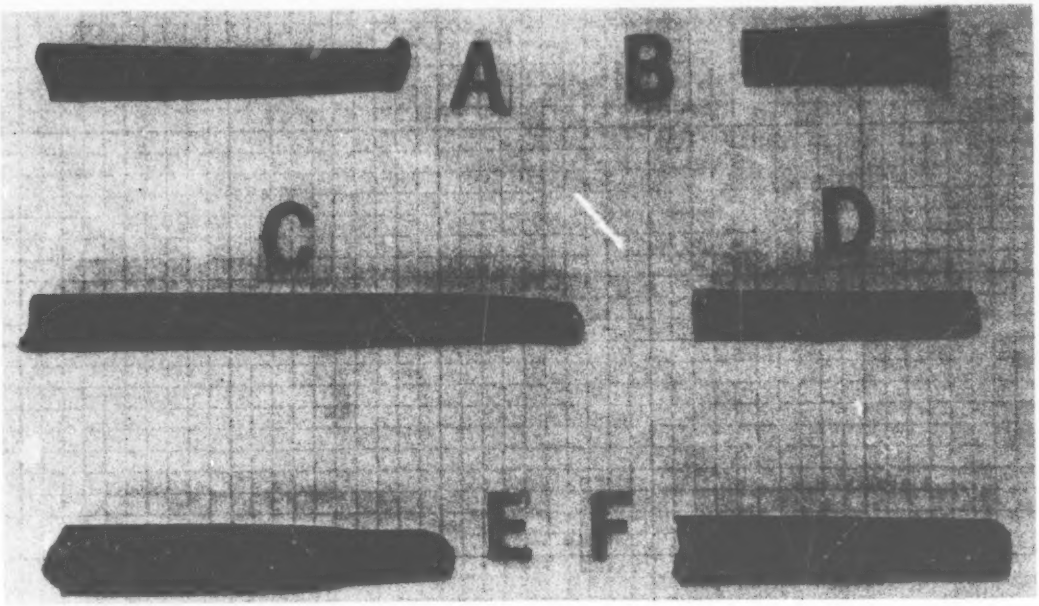


96 Chinese porcelain, blue and white: a, b, rims; c, base.

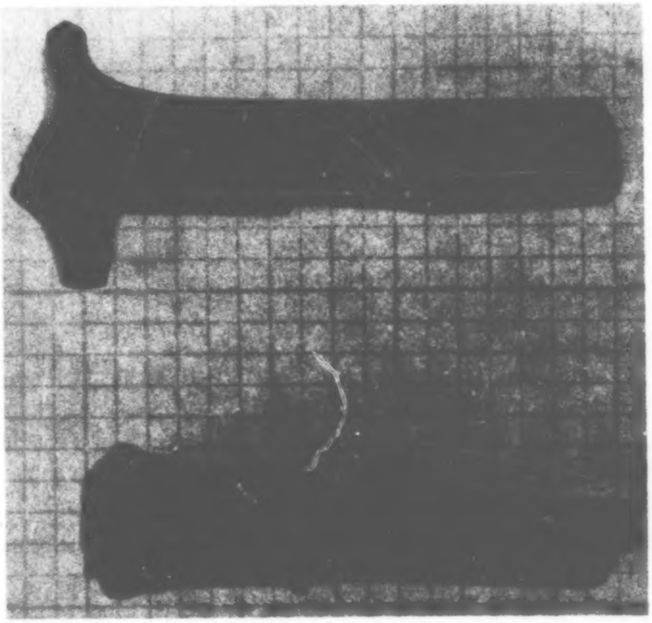


97 Chinese porcelain, polychrome: a, b, rims; c, body sherd.

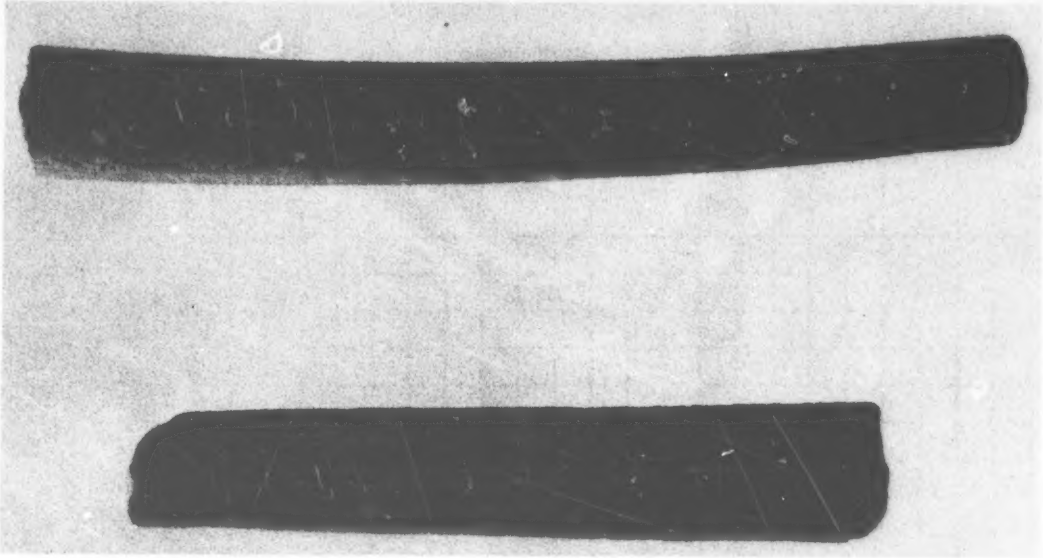
98 Chinese porcelain, brown-glazed.



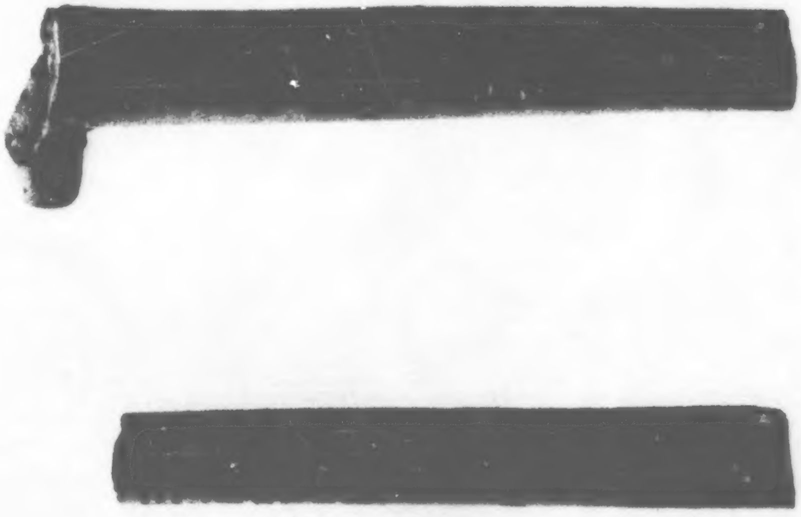
99 Mouthpieces: a, b, flanged; c, glazed; d, plain, original; e, f, secondary.



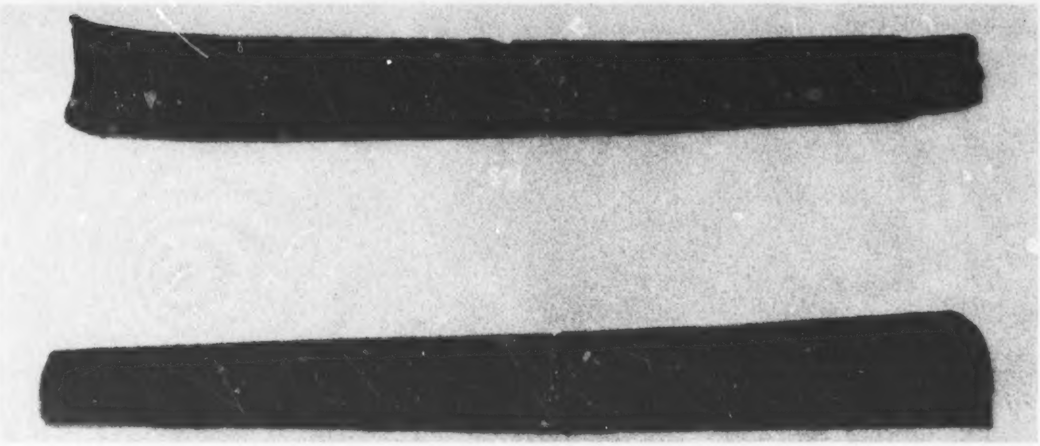
100 Decorated stems. Upper: Henderson with reversed 6 on spur. Lower: Moulded, fluted collar around stem.



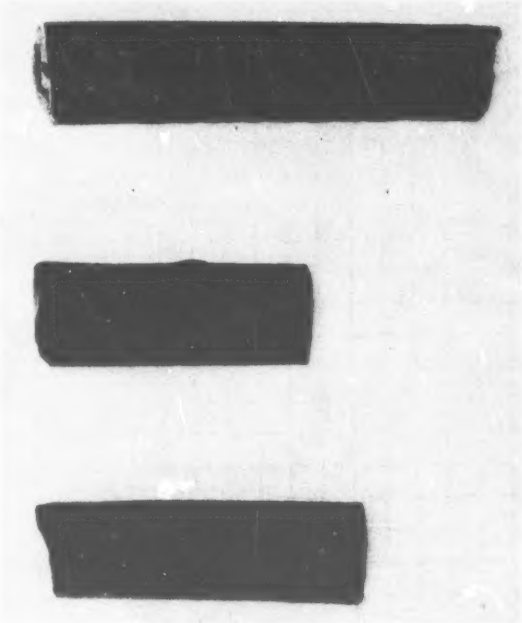
101 A. Coghill.



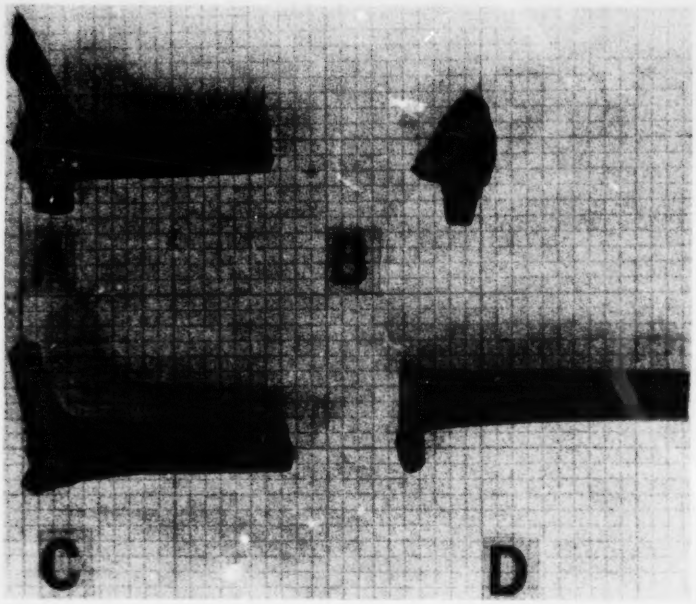
102 Henderson.



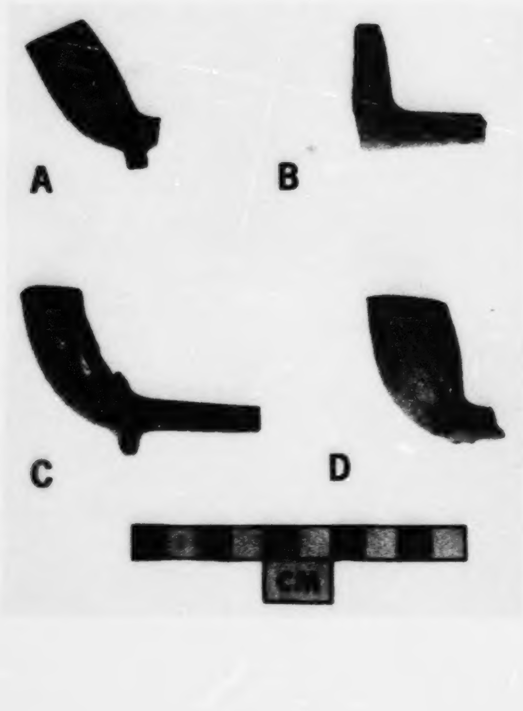
103 McDougall.



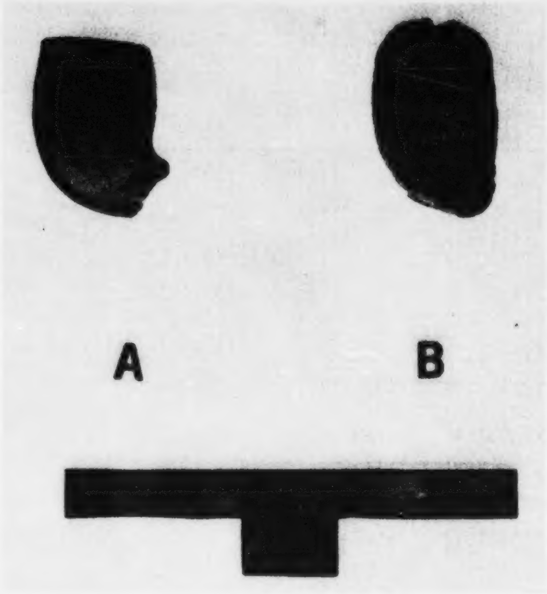
104 W & D Bell.



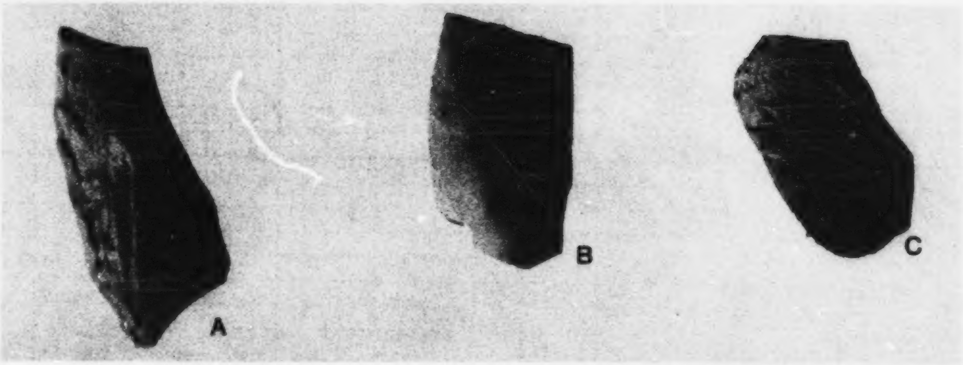
105 Marked spurs: a, TD; b, 2; c, stem decoration; d, Ɨ.



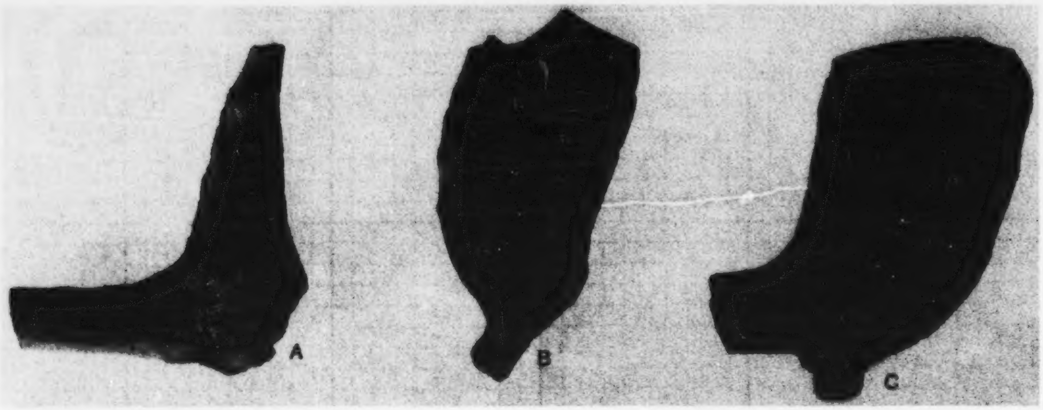
106 Plain bowls: a, angled top; b-d, parallel top.



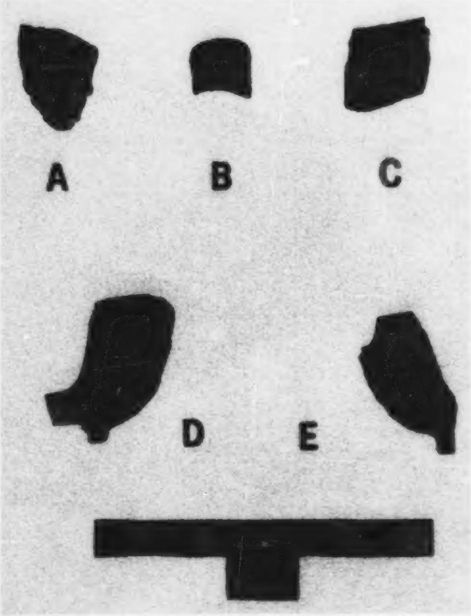
107 Keeled and moulded bowls: a, keeled; b, moulded.



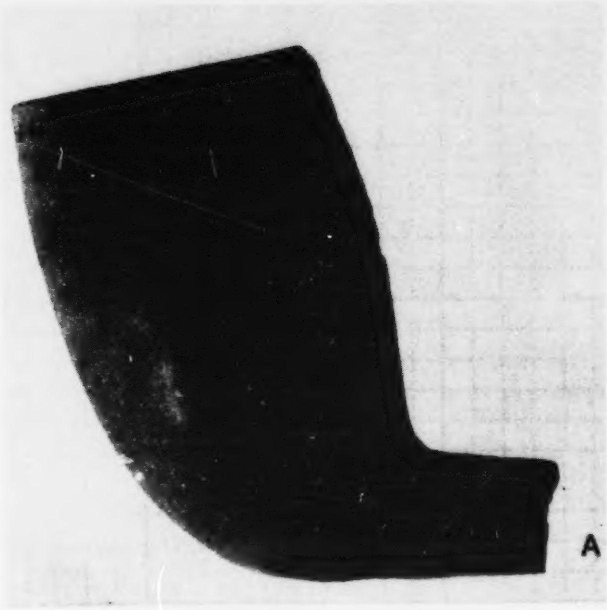
108 Moulded and impressed bowl fragments: a, b, moulded; c, impressed.

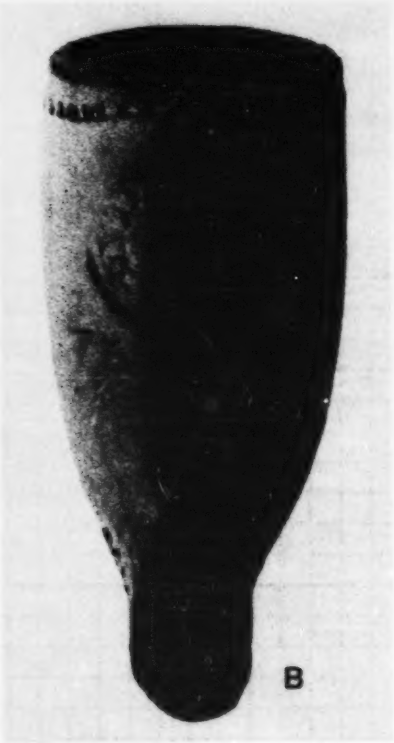


109 Moulded masonic and fluted bowls: a, masonic; b, c, fluted.

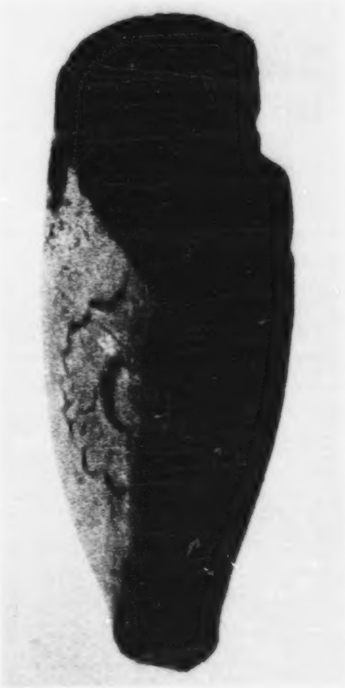


110 Effigy, moulded bowls: a, b, effigy heads; c-e, fluted.

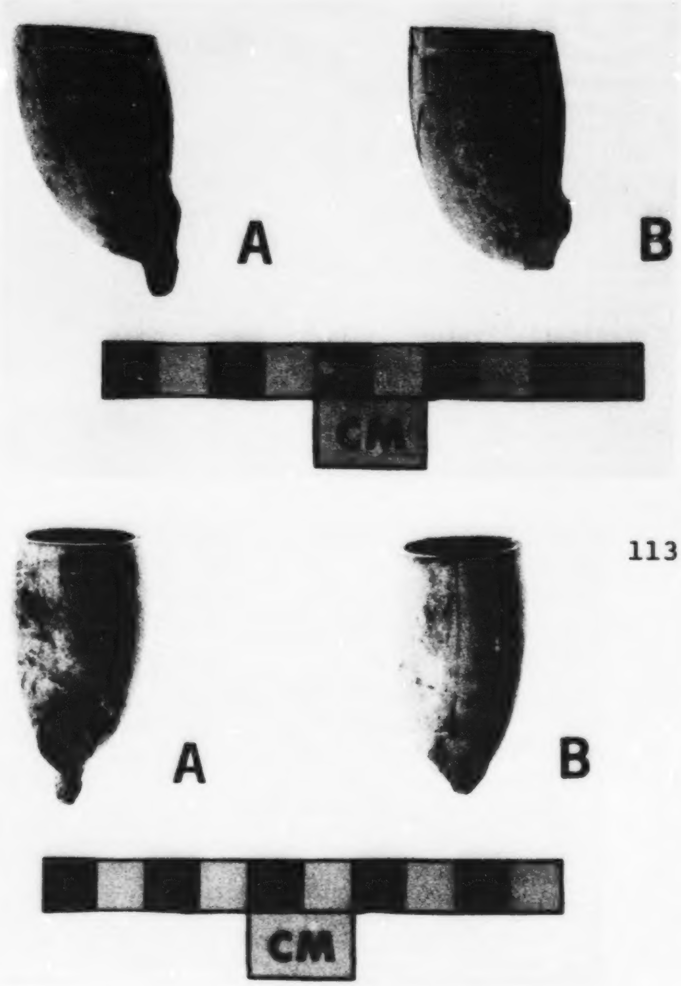




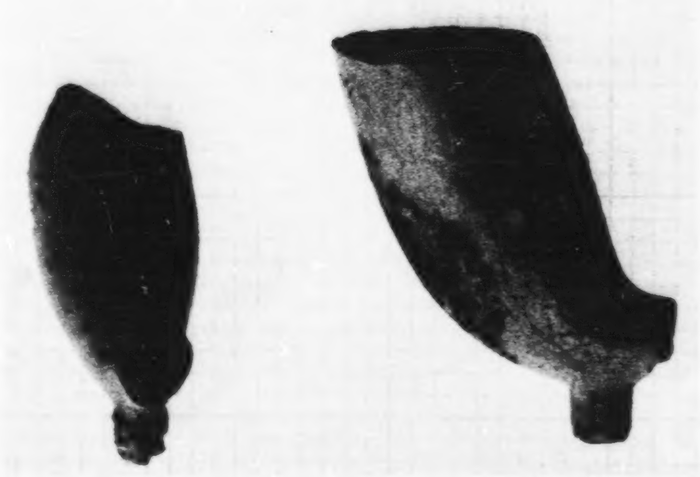
111 Henderson bowl: a, side view; b, impressed mark on back of bowl.



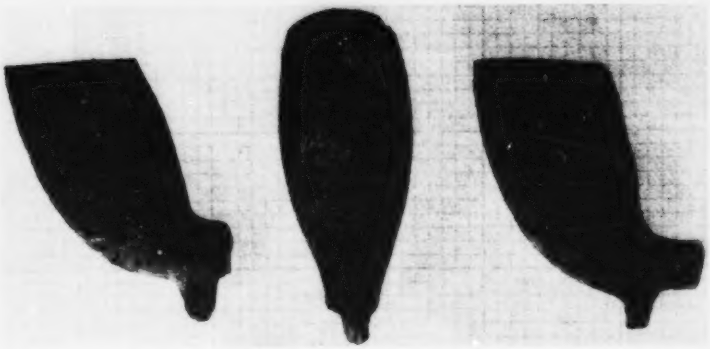
112 GG moulded bowl.



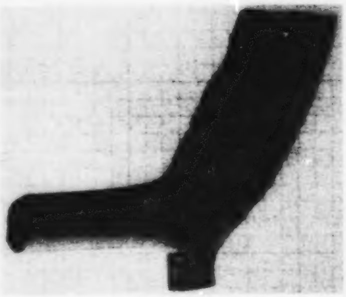
113 TD, letters alone. Top, side views; bottom, impressed letters on back of bowl.



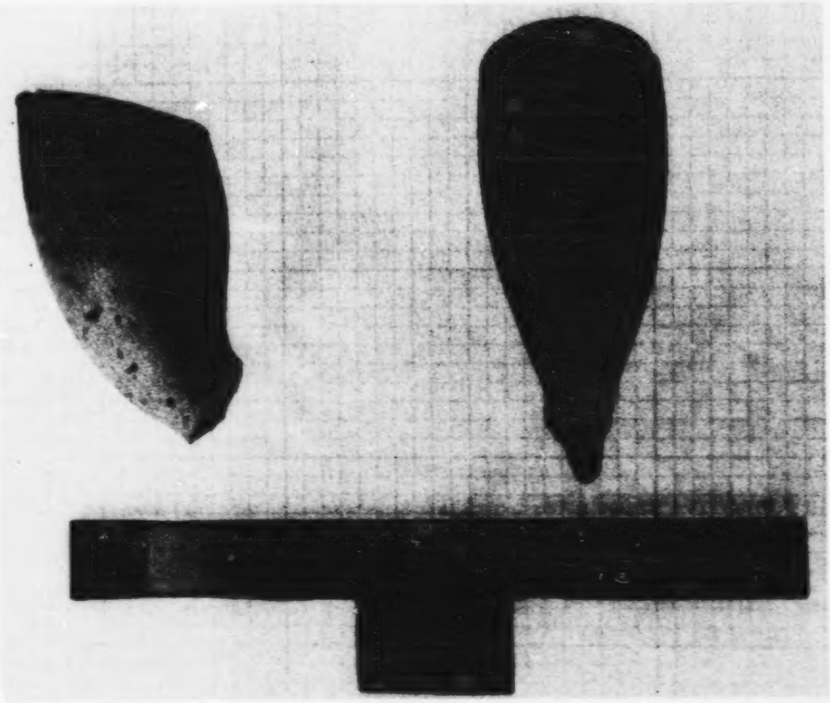
114 TD impressed letters in wreath, WG spur.



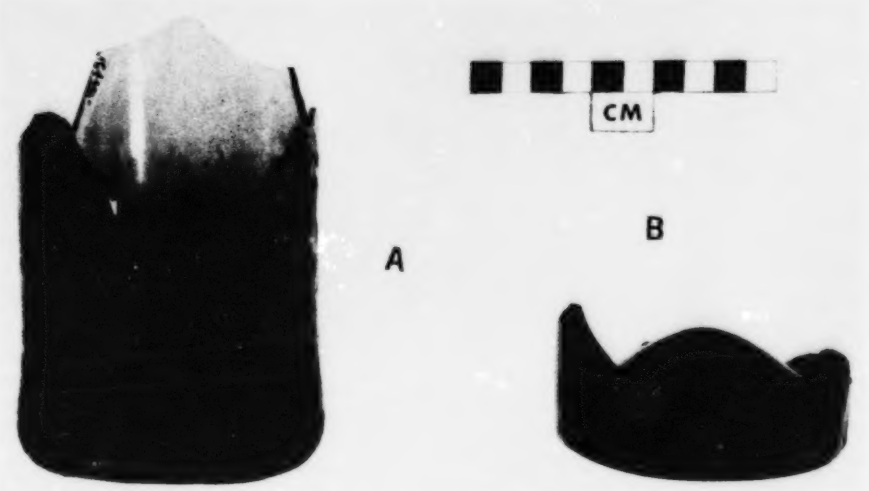
115 TD, impressed letters in wreath; carved bowl. Left, side view; centre, back view of different specimen; right, initials HP carved on side of third example.



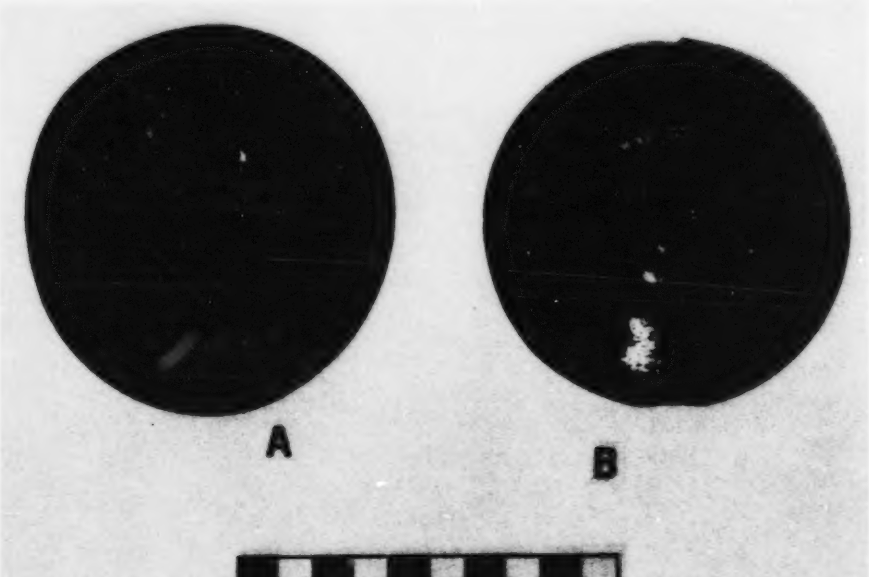
116 TD, impressed. Note the incuse impressed mark on the back of the bowl and the TD moulded on the spur.



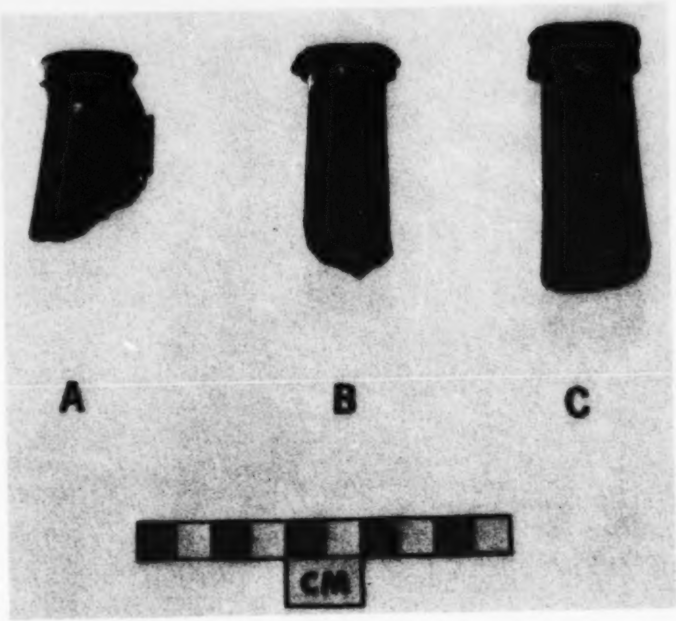
117 TD moulded. Left: side view. Right: TD in wreath, moulded raised mark.



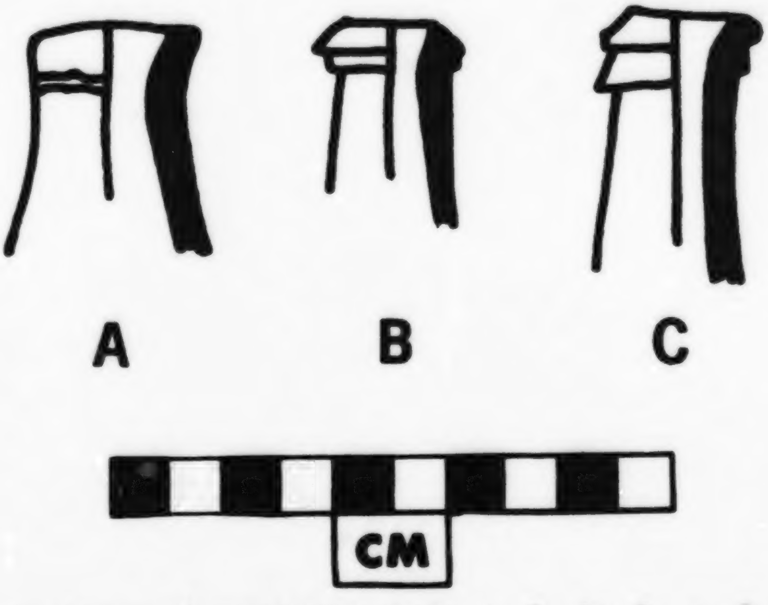
118 Regular and irregular bottle bases. Profiles: a, irregular; b, regular.



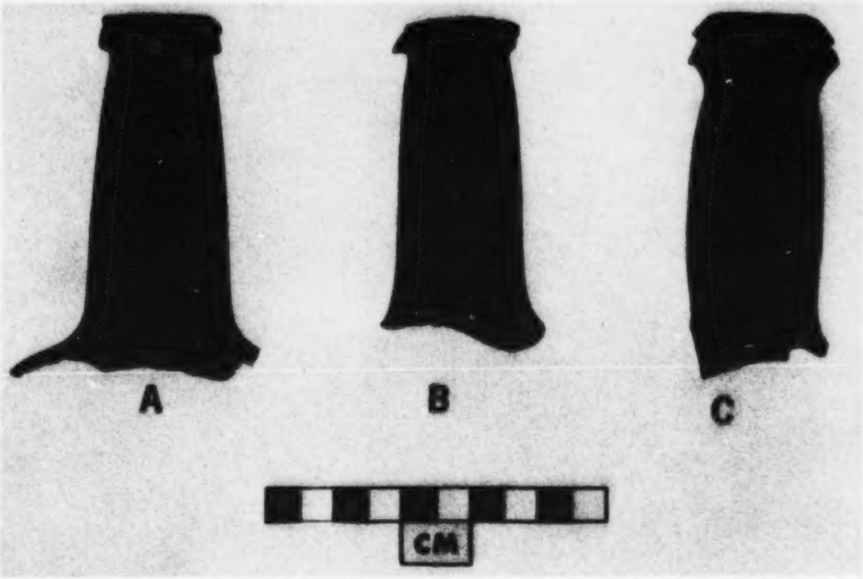
119 Regular and irregular bottle bases. Basal view: a, irregular; b, regular.



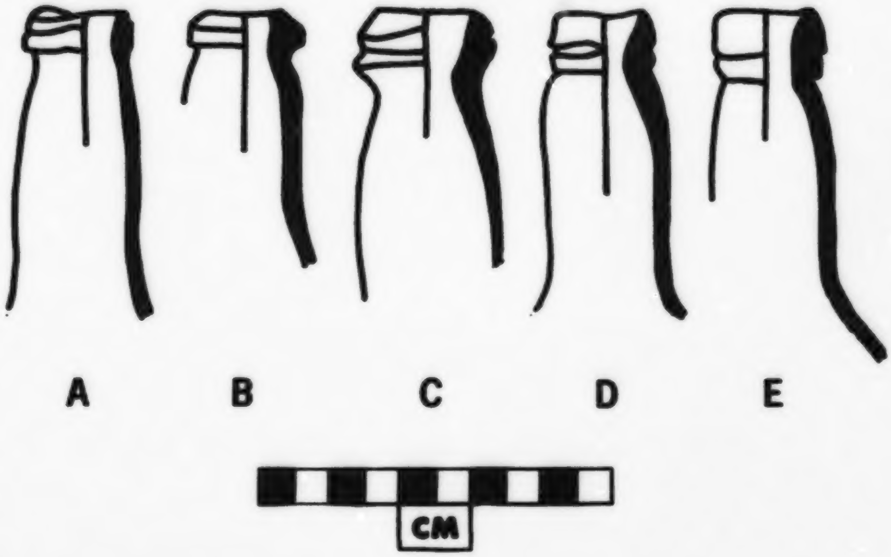
120 Bottle necks, irregular, 1-3: a, 1; b, 2; c, 3.



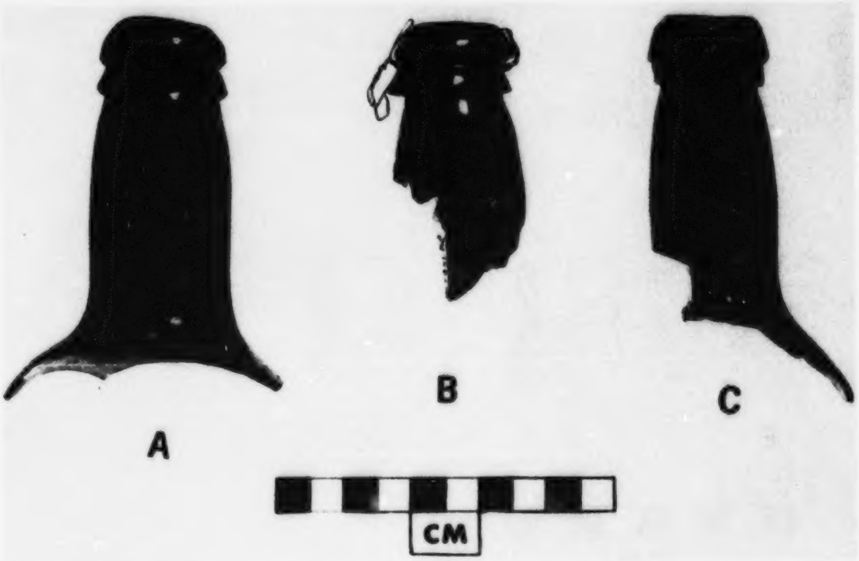
121 Bottle neck profiles, 1-3: a, 1; b, 2; c, 3.



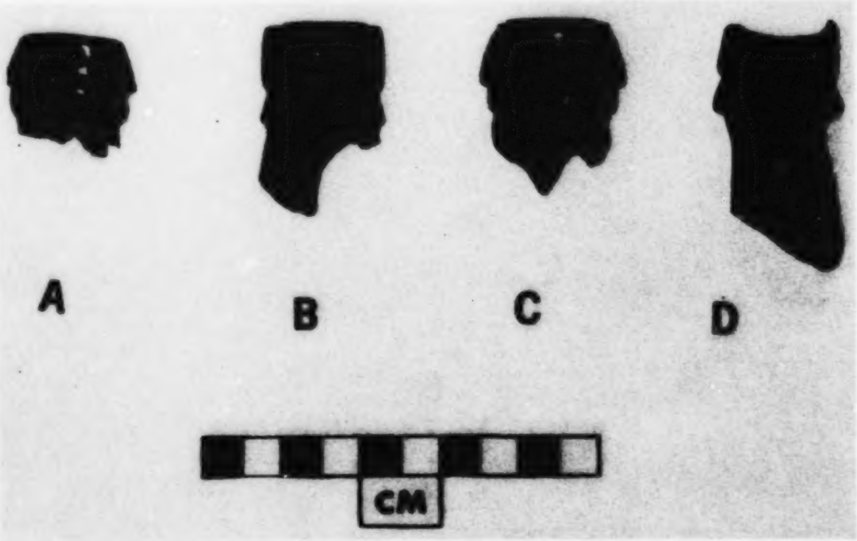
122 Bottle necks, irregular, 4-6: a, 4; b, 5; c, 6.



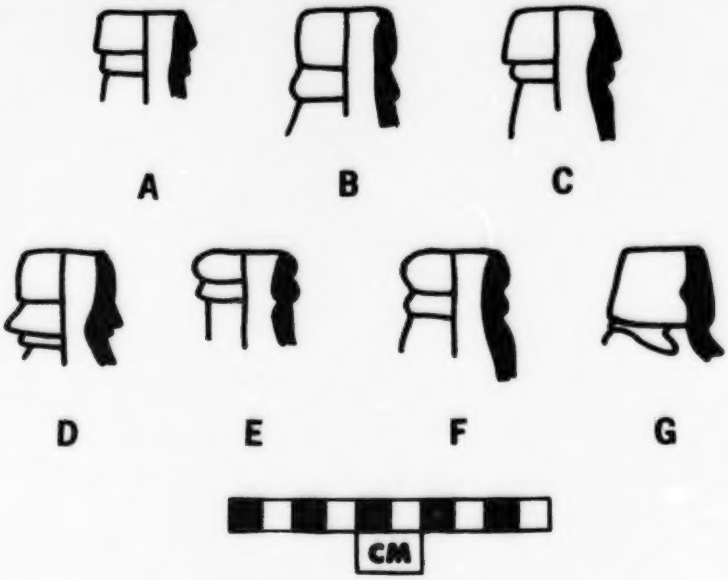
123 Bottle neck profiles, 4-7: a, 4; b, 5; c, 6; d, e, 7.



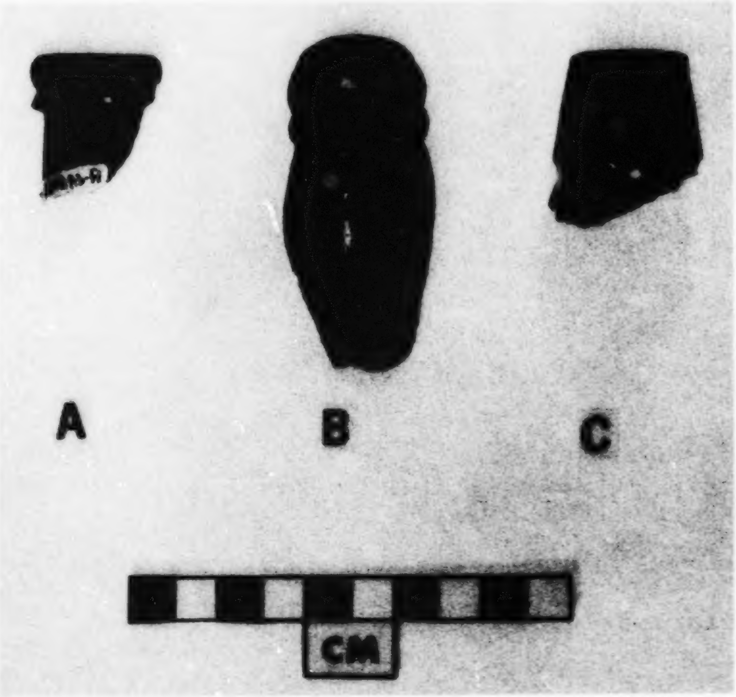
124 Bottle necks, irregular, 7: a, c, plain; b, closure wire intact.



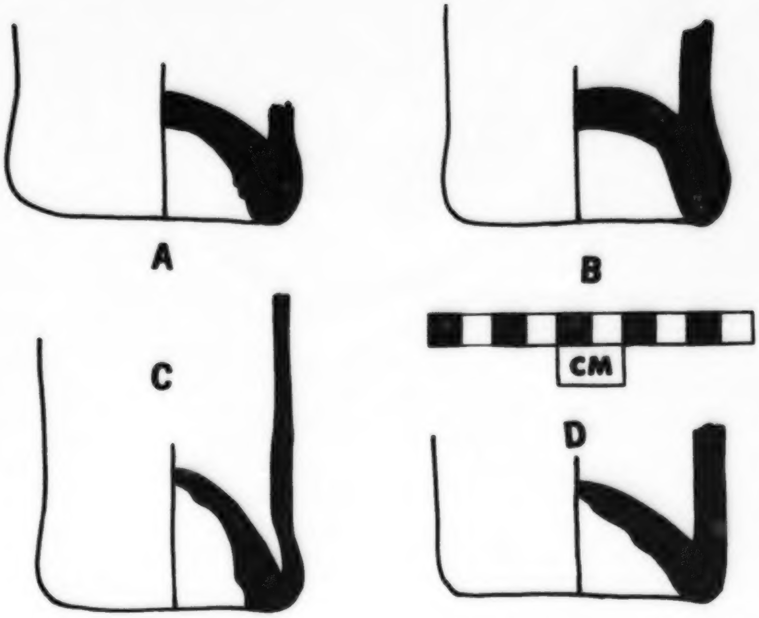
125 Bottle necks, regular: 8-10.



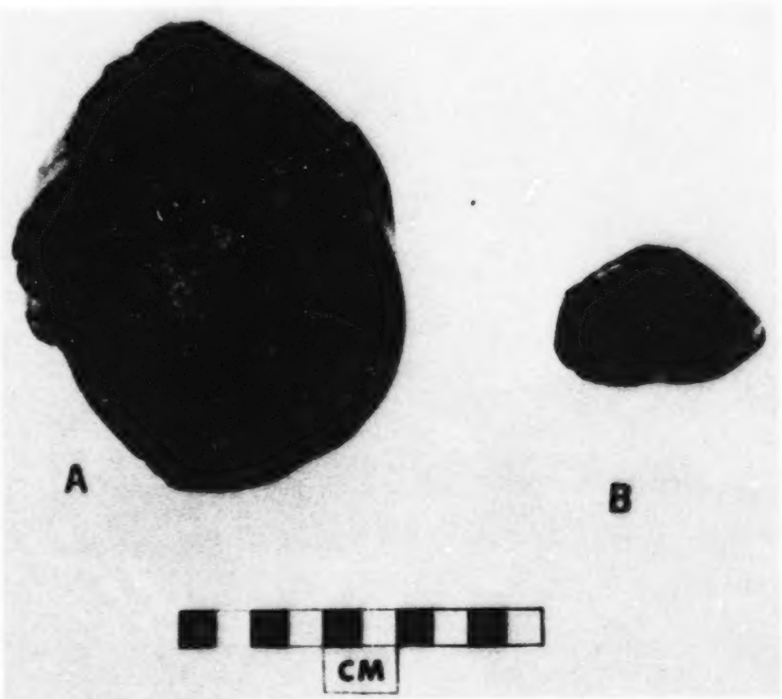
126 Bottle necks, regular: profiles.



127 Bottle necks, regular, 12-14: a, 12; b, 13; c, 14.

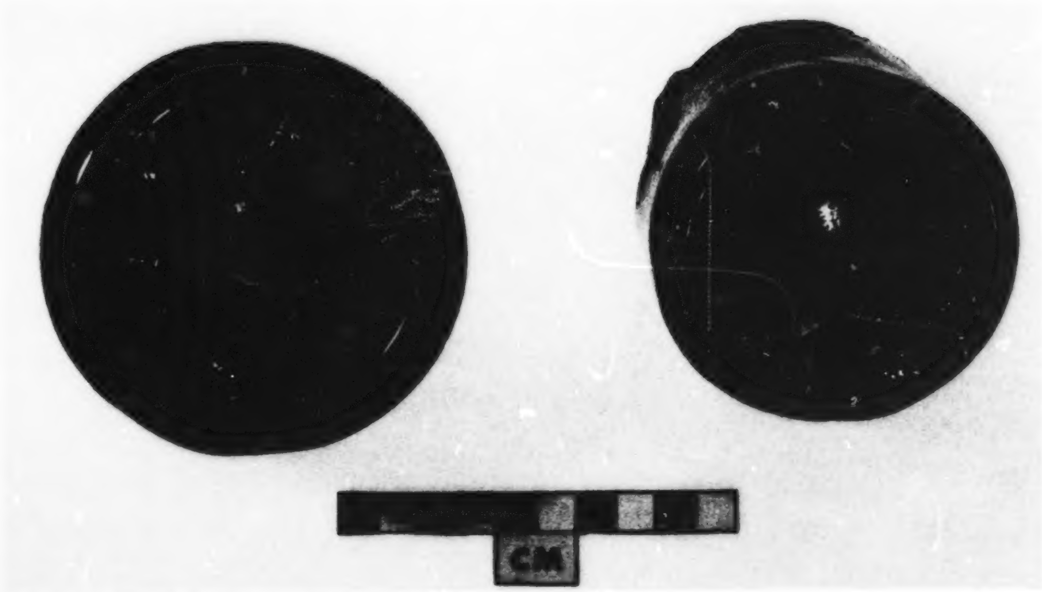


128 Push-up profiles: a-c, irregular; d, regular.

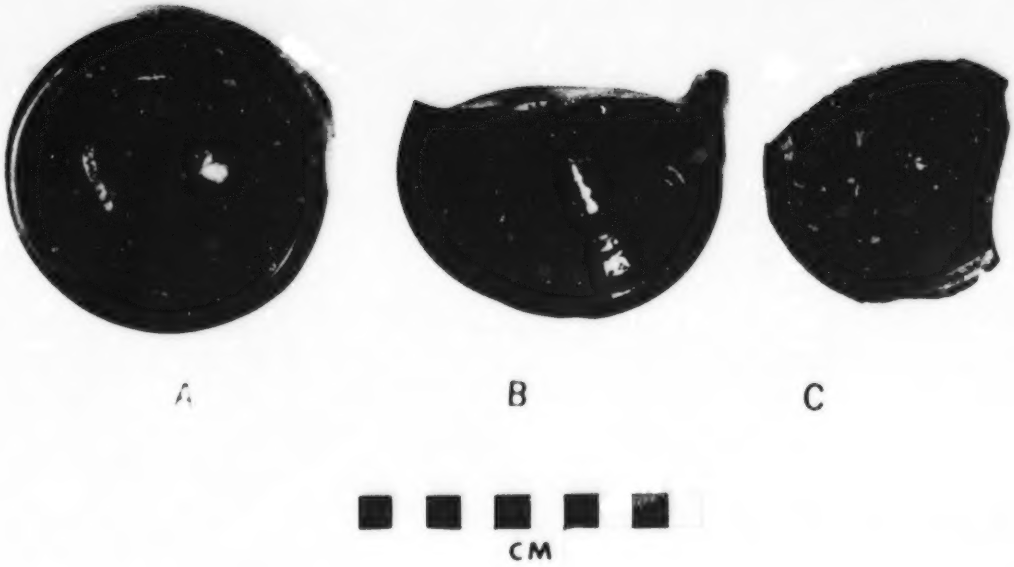


129 Bottle bases, irregular: a, bell-shaped; b, blow pipe pontil scar.

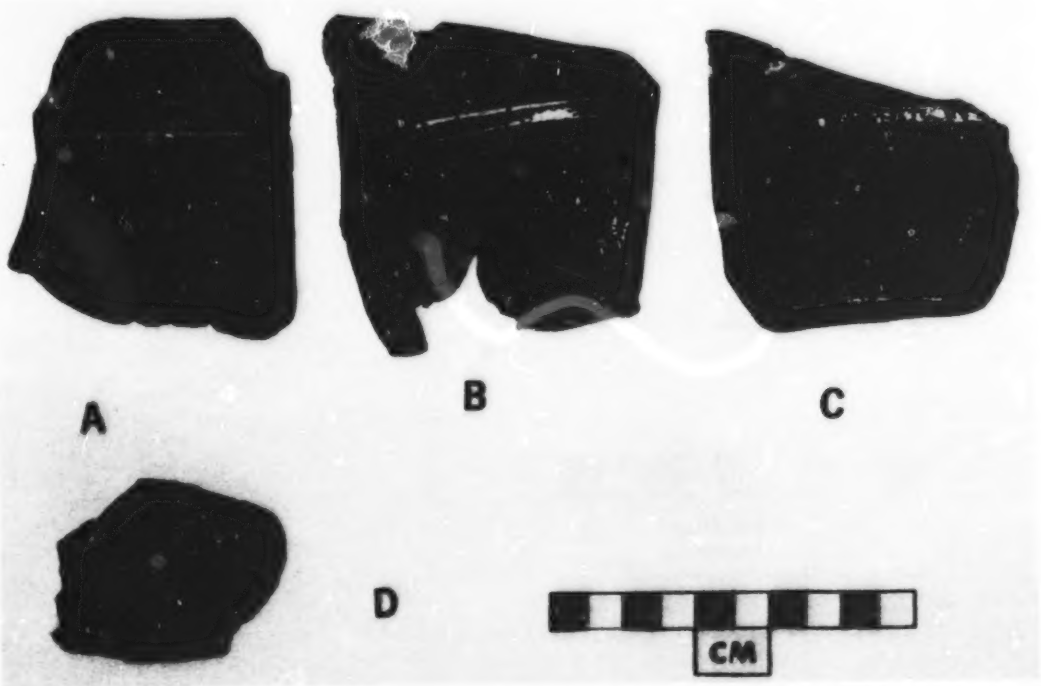
130 Bottle base, irregular; sand pontil.



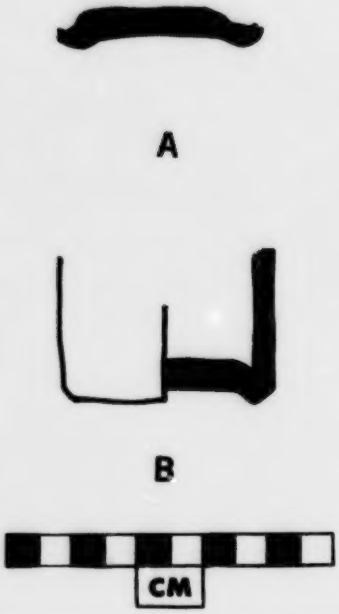
131 Bottle bases, irregular.



132 Bottle bases, regular.

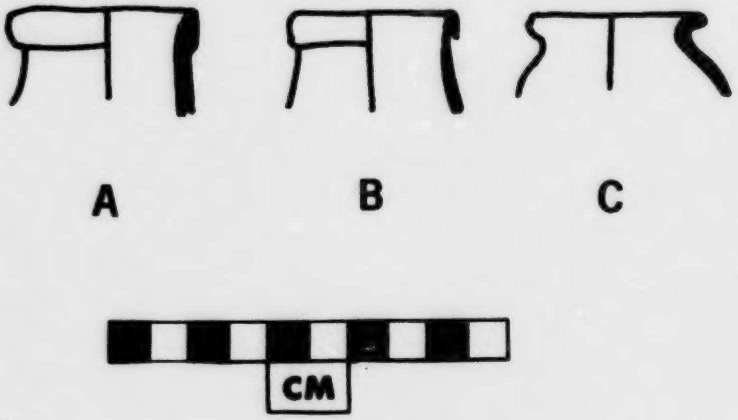


133 Square-sectioned bottle bases: a, glass blow pipe pontil scar; b, domed, moulded base; c, moulded base with design; d, plain moulded base.

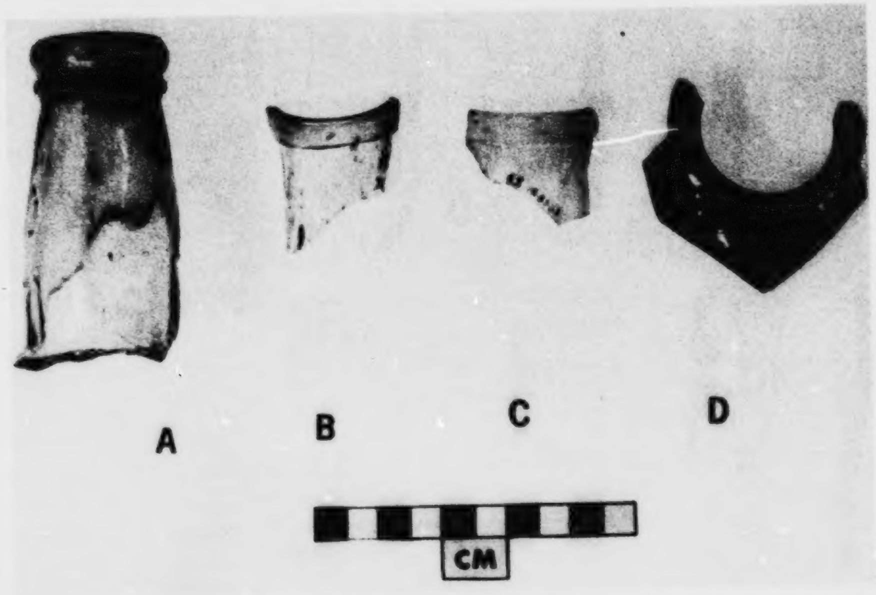


134 Square-sectioned bottle profiles.

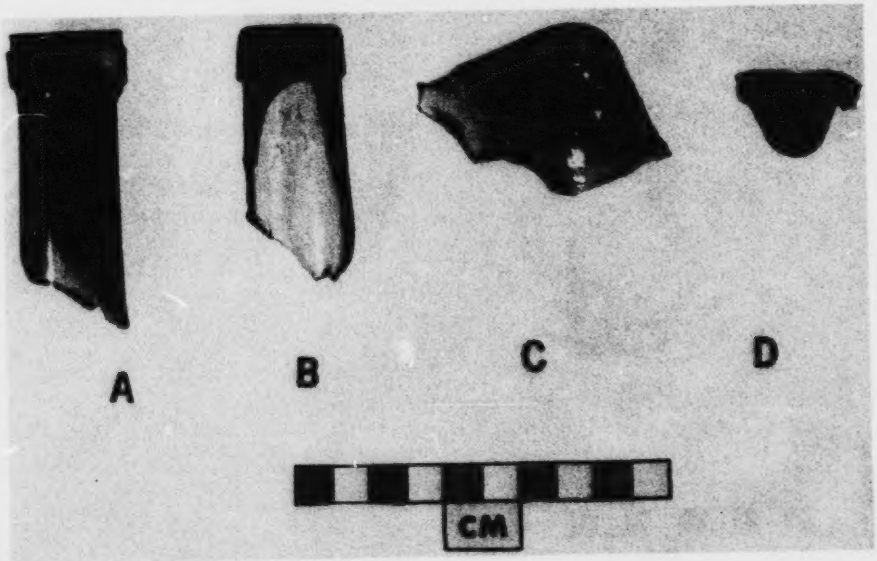
135 Octagonal bottle bases.



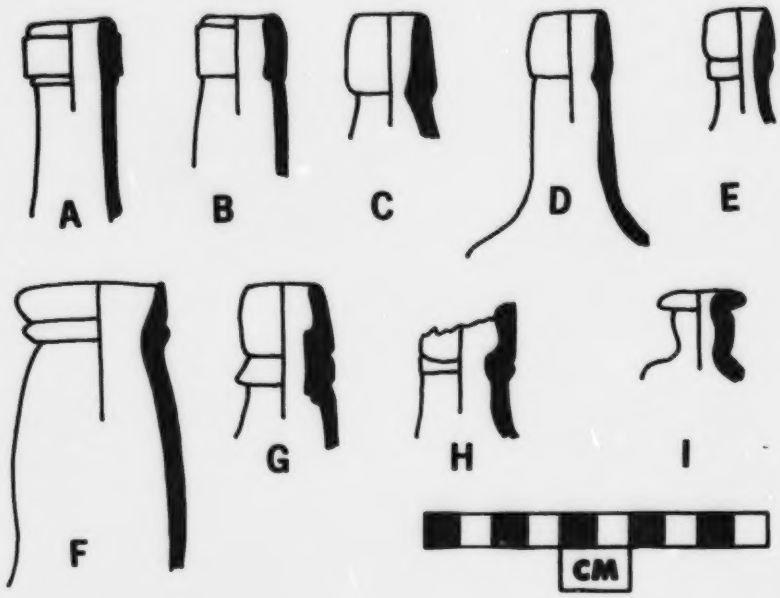
136 Wide mouth bottle neck profiles: a, b, folded rim, clear; c, flared rim, olive colour.



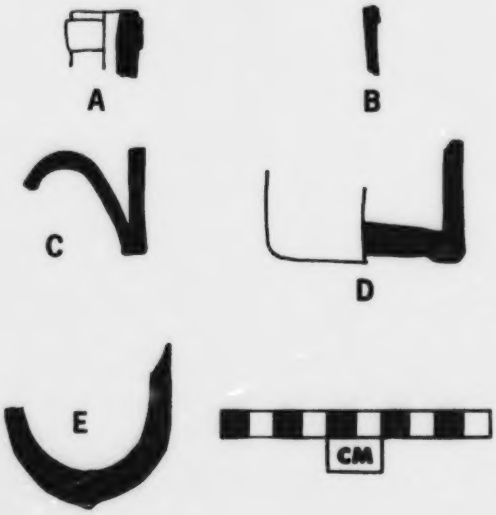
137 Wide mouth bottle necks: a, large neck with string rim; b, c, folded rims, clear; d, flared rim, olive coloured.



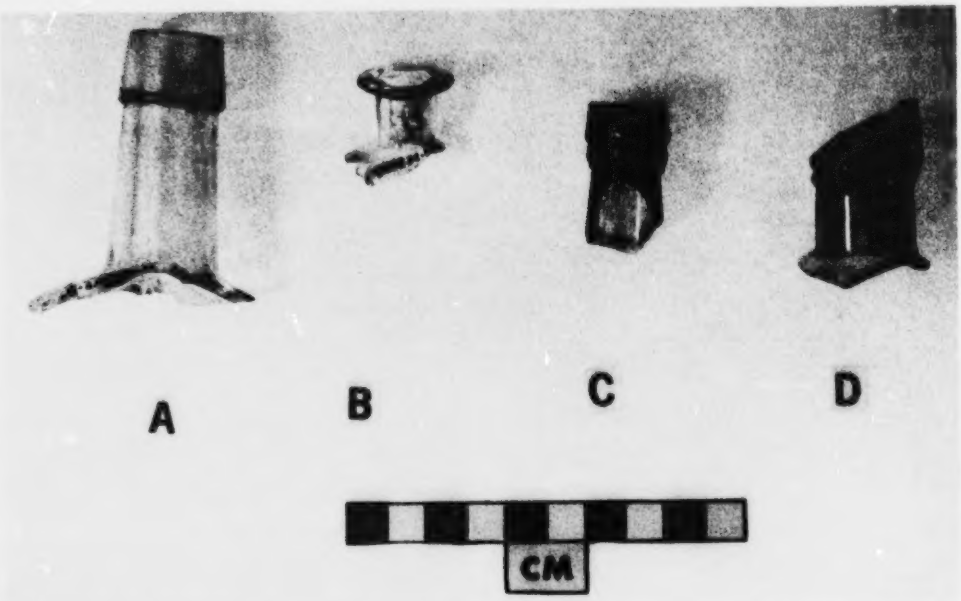
138 Champagne bottles: a, b, finishes; c, push-up; d, inverted nipple from top of push-up.



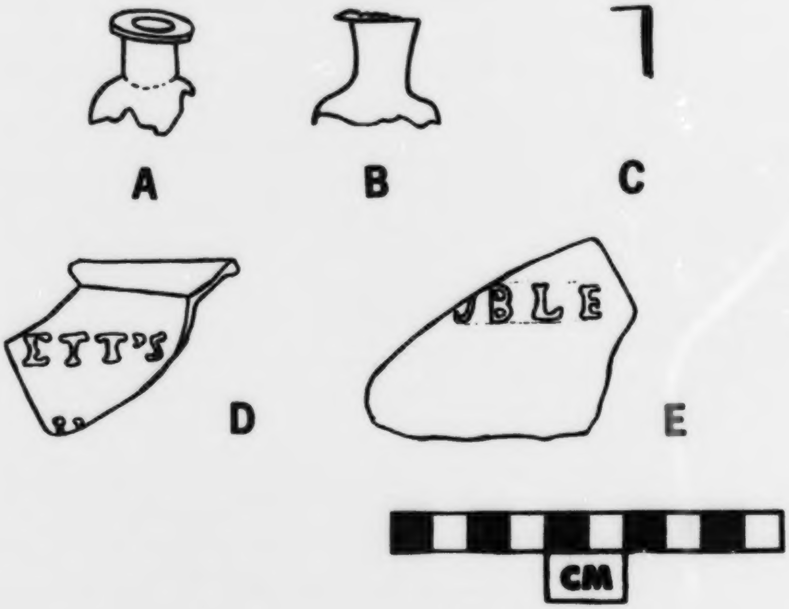
139 Miscellaneous bottle profiles: *a*, *b*, champagne bottle finishes; *c*, *d*, castor oil bottle finishes; *e*, small bottle with string rim; *f*, wide mouth bottle with string rim; *g*, *h*, clear glass finishes with stopper flange on interior neck; *i*, flanged rim.



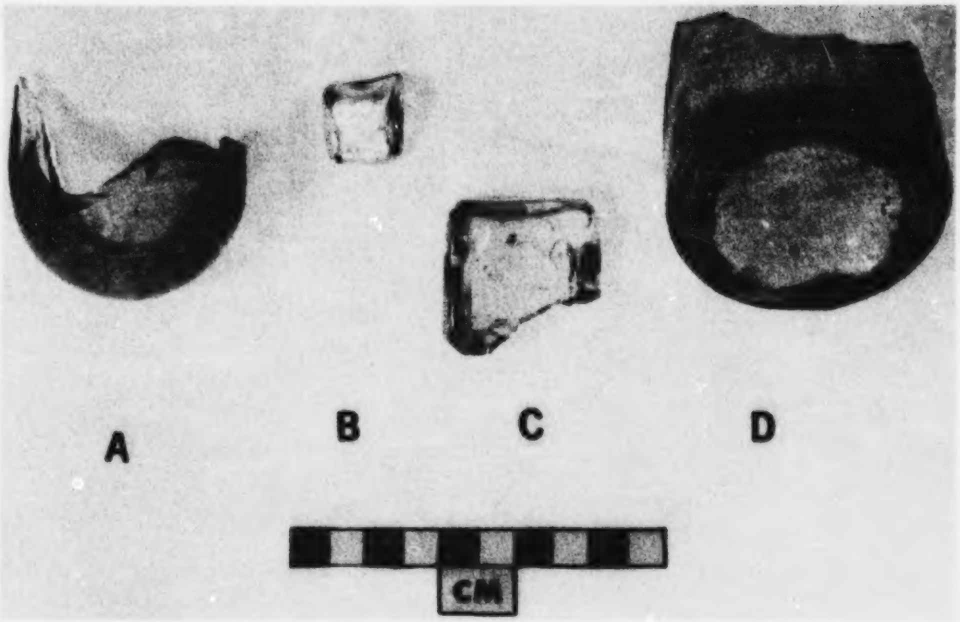
140 Miscellaneous bottle profiles, clear metal: *a*, *b*, rims; *c*, push-up; *d*, moulded base; *e*, round-bottomed base.



141 Castor oil form bottle necks: a, d, castor oil finish forms; b, flanged finish; c, small bottle finish.

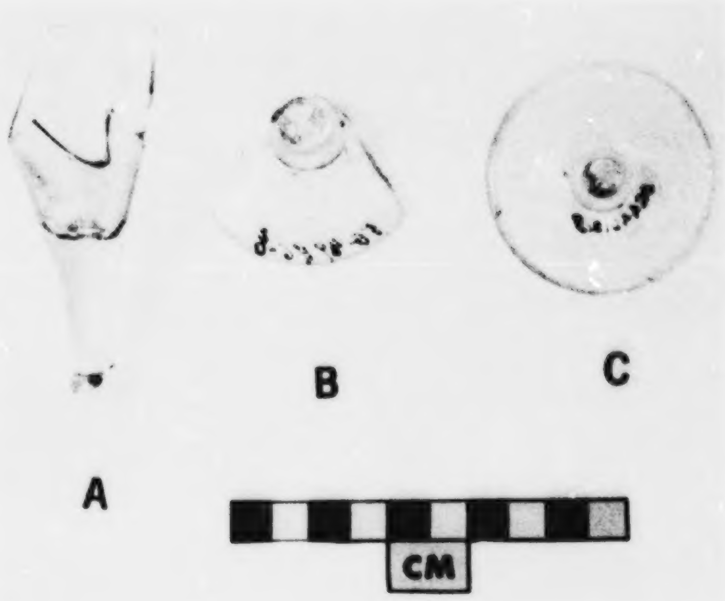

A
B
C
ETT'S
D
BLE
E
CM

142 Pharmaceutical bottles: a-c, finishes; d, e, moulded body sherds.

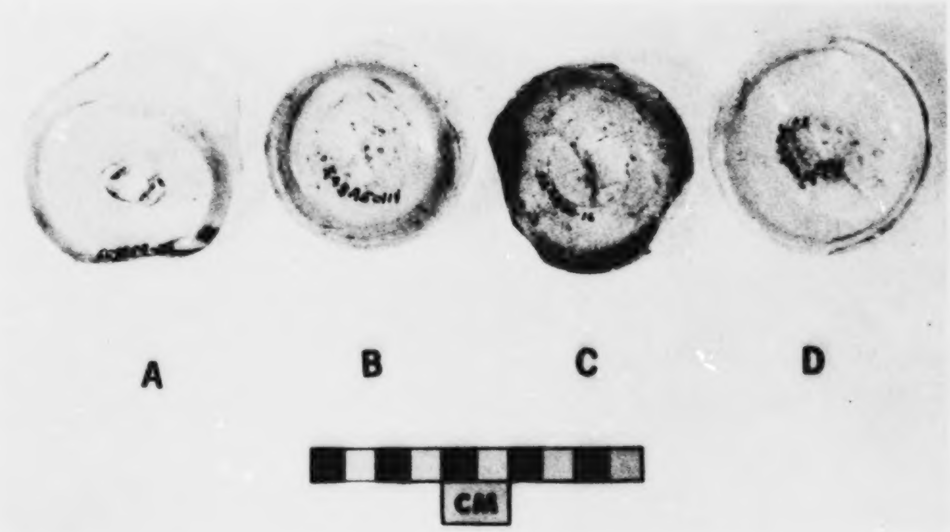


143 Miscellaneous bottle bases: a, round-bottomed; b, c, square; d, moulded.

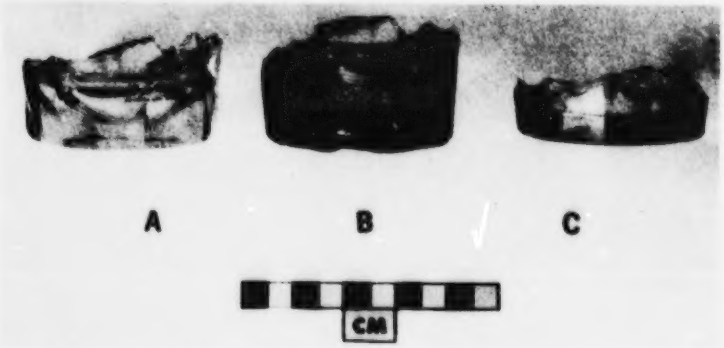
144 Moulded bottle seal.



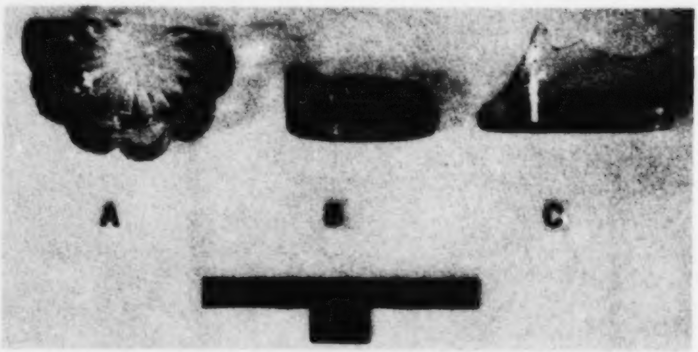
145 Wine glasses: a, bowl; b, c, feet.



146 Glass vessel bases. Note pontil scars.

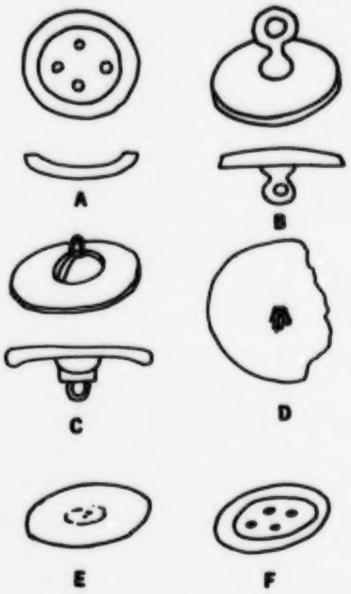


147 Moulded glass vessel bases, I: a, b, octagonal; c, 14-sided.

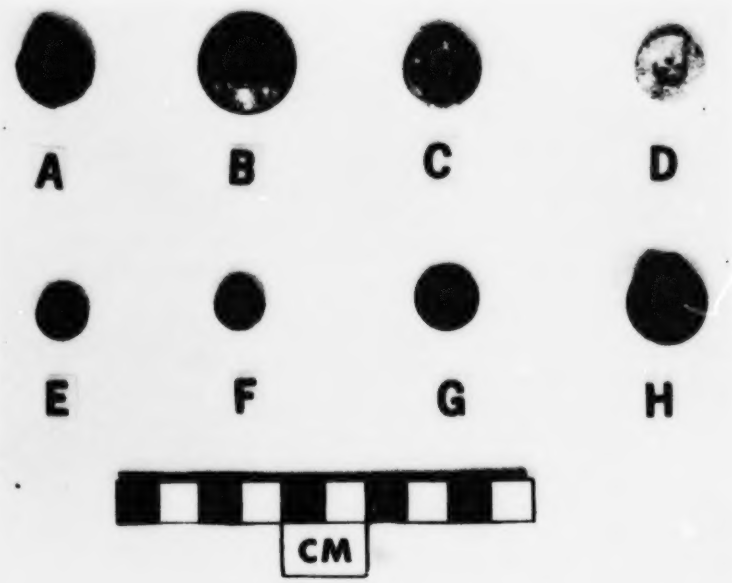


148 Moulded glass vessel bases, II.

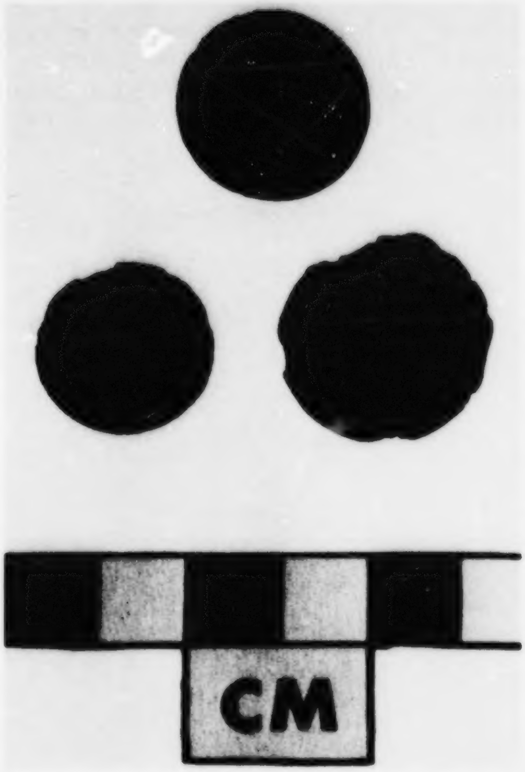
149 Miscellaneous glass artifacts: a, b, finish fragments; c, moulded body sherds; d, green-coloured foot; e, lid with moulded letters, white.



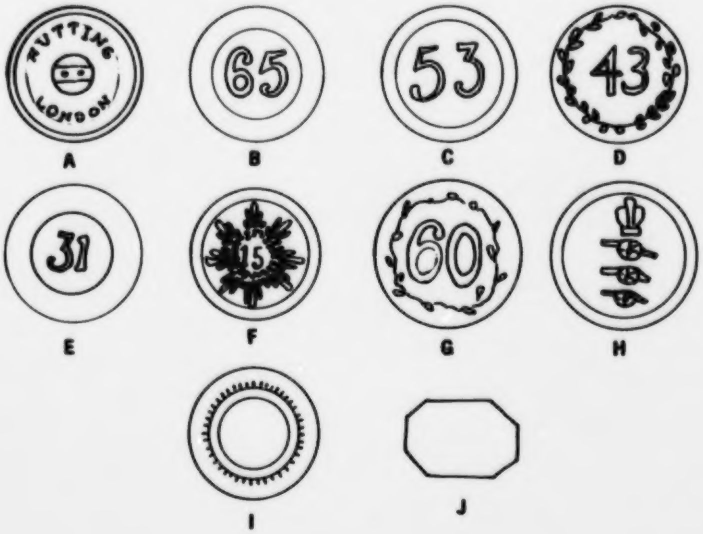
150 Buttons: a, iron; b, white metal, moulded shank; c, white metal, eye cast in boss; d, e, braised shank scars; f, bone button.



151 Buttons: a, iron; b, h, backs of two-piece bone buttons, brass fronts; b, exterior; h, interior; c-g, bone buttons with varying number of holes.



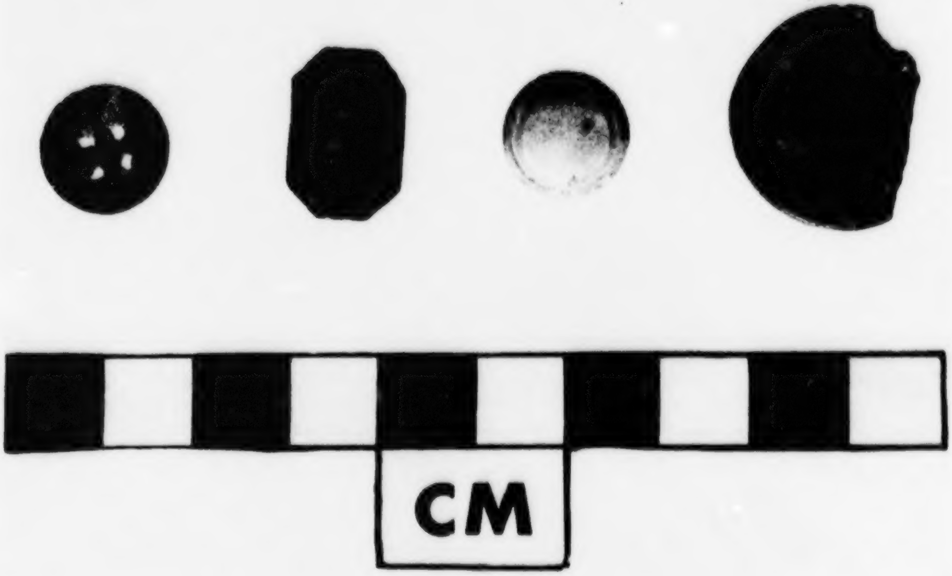
152 Buttons. Top: plain. Left: 15. Right: 31.


NUTTING
LONDON
A
65
B
53
C
43
D
31
E
15
F
60
G
H
I
J

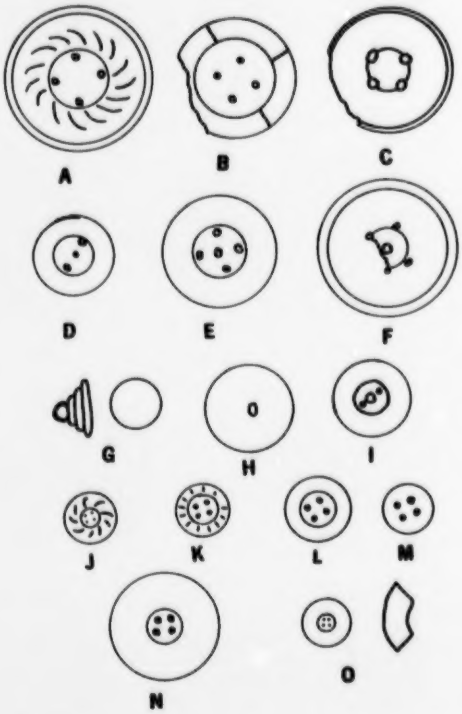
153 Buttons with regimental numbers: *a*, reverse of 65; *b*, 65; *c*, 53; *d*, 43; *e*, 31; *f*, 15; *g*, 60; *h*, three cannon; *e*, *j*, silver.

154 Buttons. Top: 43.
Left: 53. Right: 60.

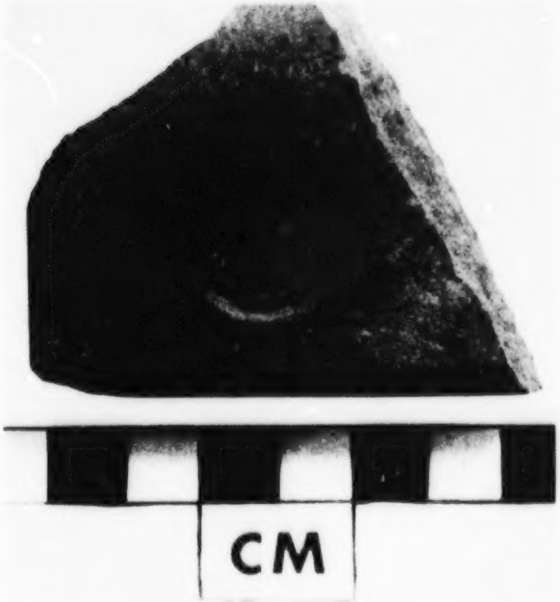
155 Buttons, 65. Top: faces with numeral 65. Bottom: reverse showing NUTTING LONDON mark.



156 Miscellaneous buttons. Top: brass; octagonal stud; silver; plain brass. Bottom: three cannons.

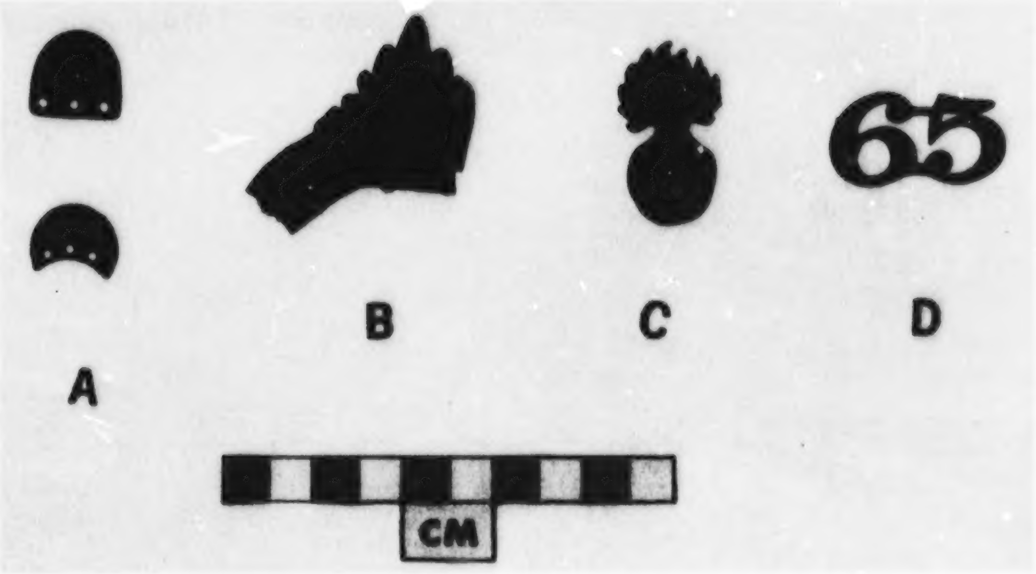

A
B
C
D
E
F
G
H
I
J
K
L
M
N
O

157 Button backs: a-f, bone.

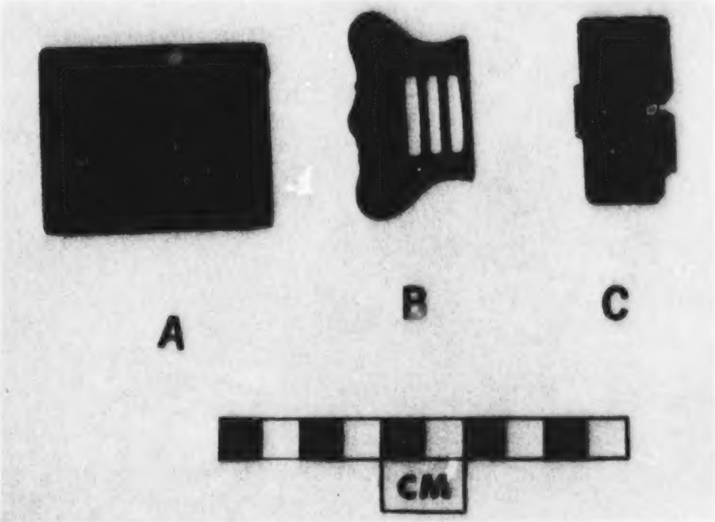


158 Button mould.

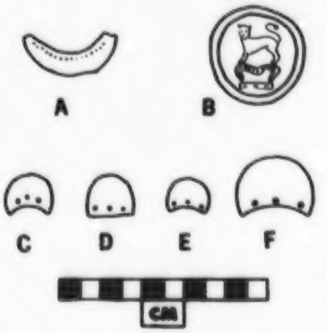
159 Belt plate.



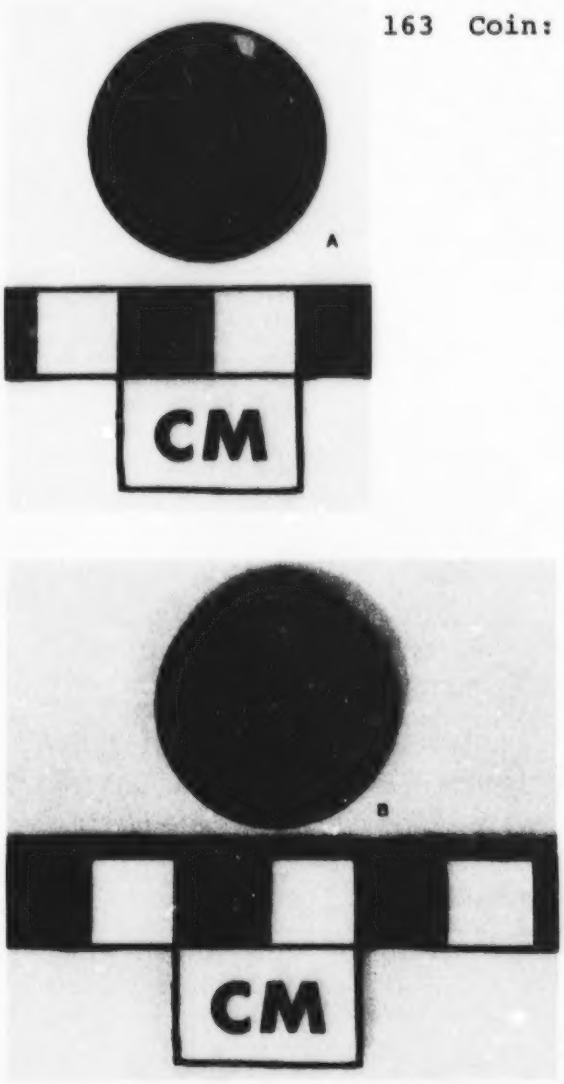
160 Badges: a, chin strap leaves; b, brass fragment; c, grenade; d, 65.



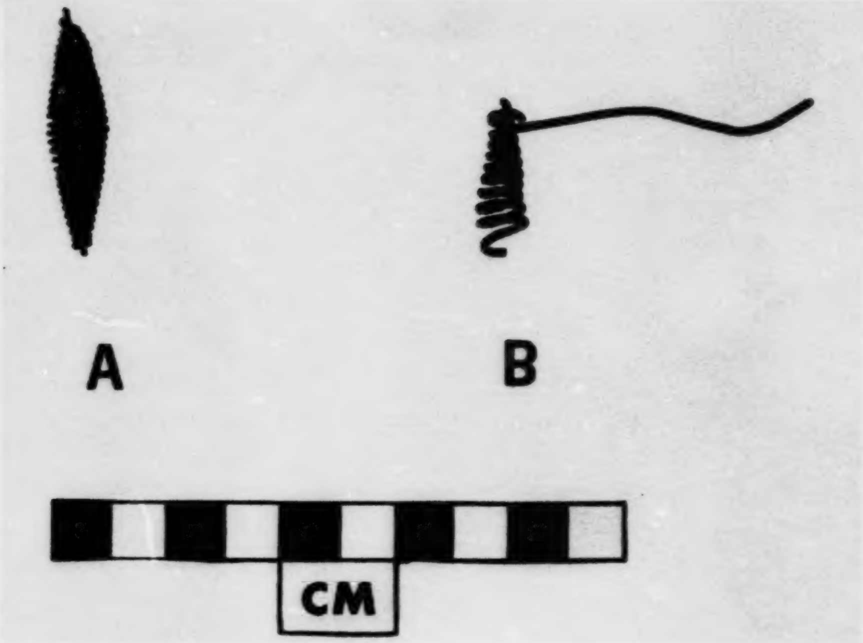
161 Belt plate and brass objects.



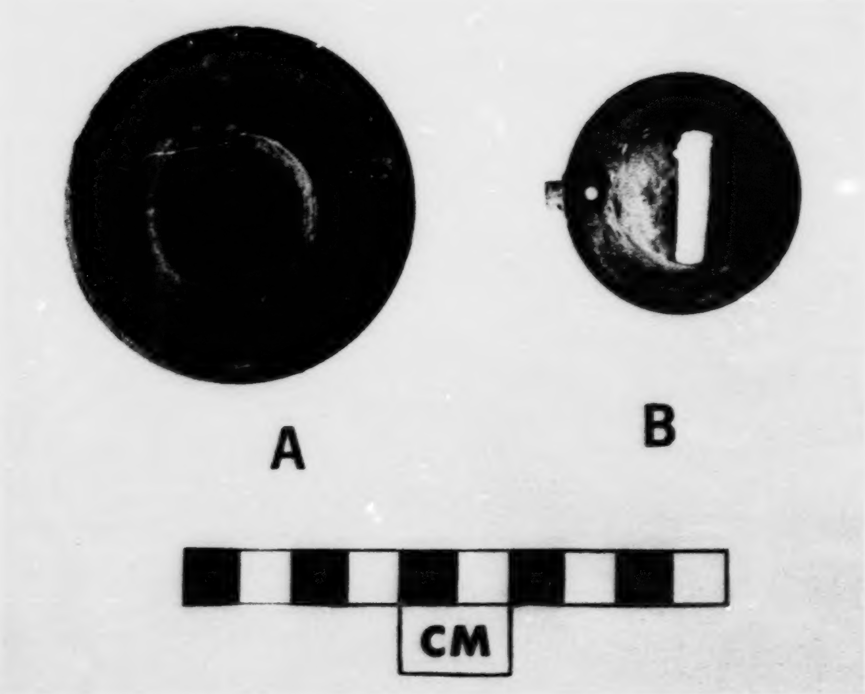
162 Miscellaneous brass artifacts: a, epaulet fragment; b, round badge; c-f, chin strap leaves.



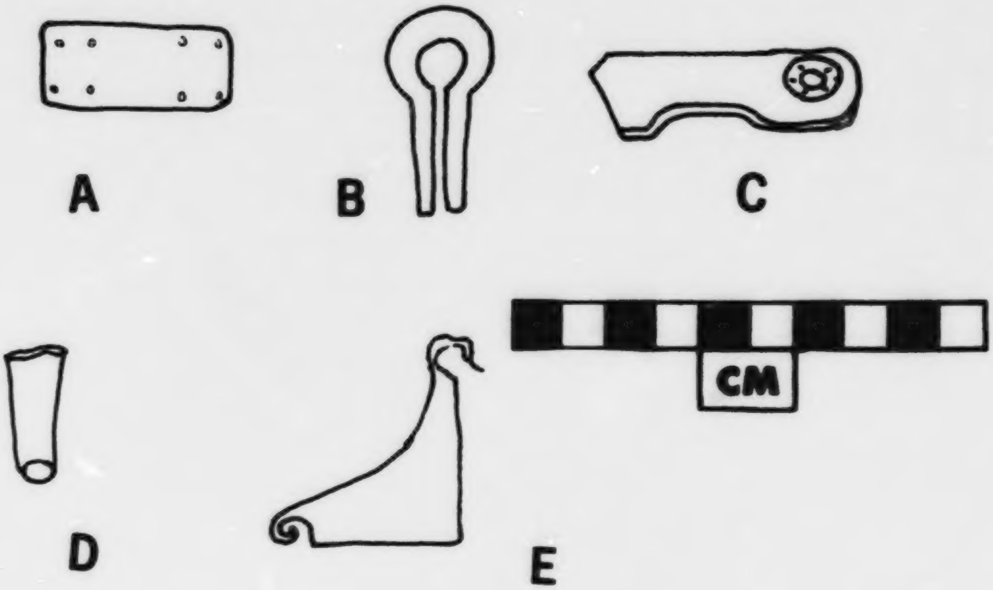
163 Coin: a, obverse; b, reverse.



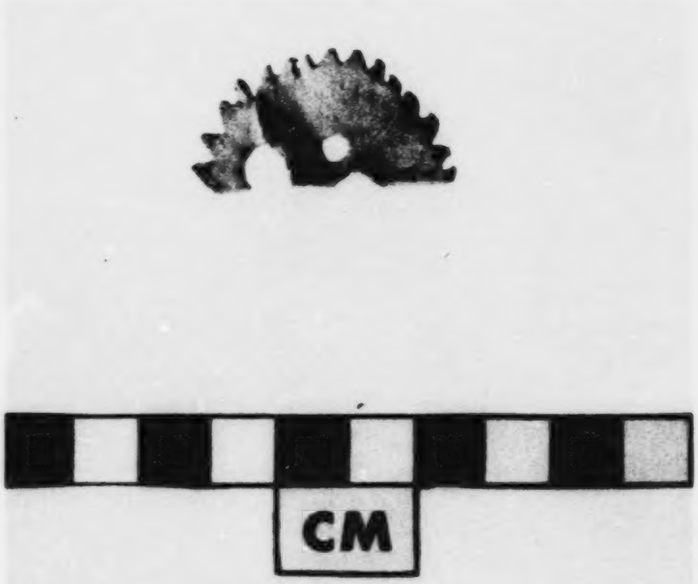
164 Brass wire cones.



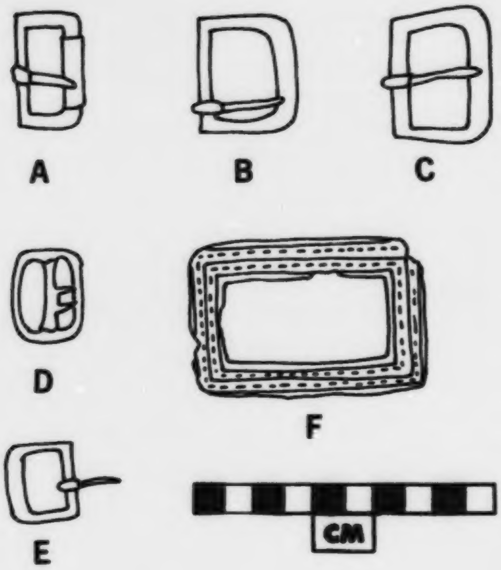
165 Brass fitting and lamp part: a, fitting; b, lamp wick holder.



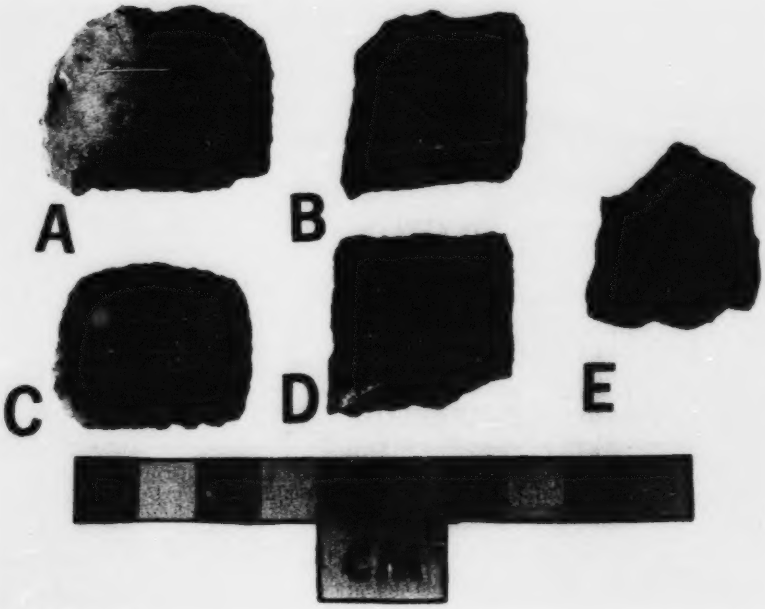
166 Brass objects: a, plate, perforated; b, Jew's harp; c, unidentified; d, ferrule; e, plate with torn corners.



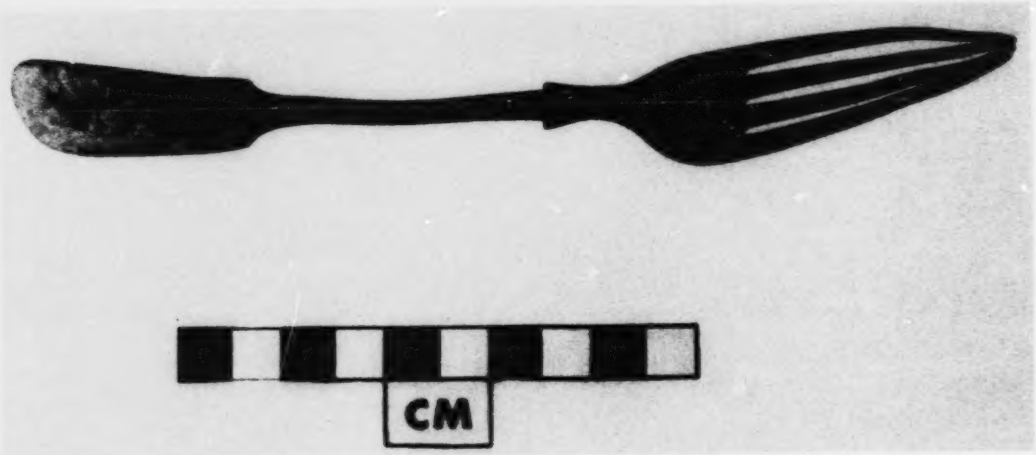
167 Lead buzzer.



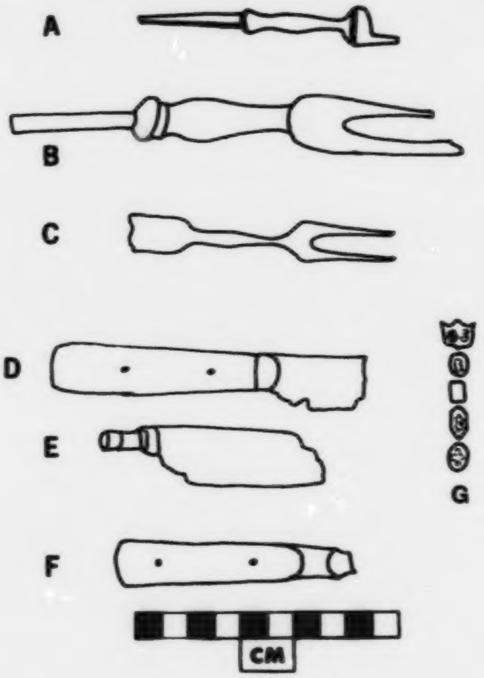
168 Buckles: a-c, e, iron; d, iron knee band; f, white metal shoe buckle.



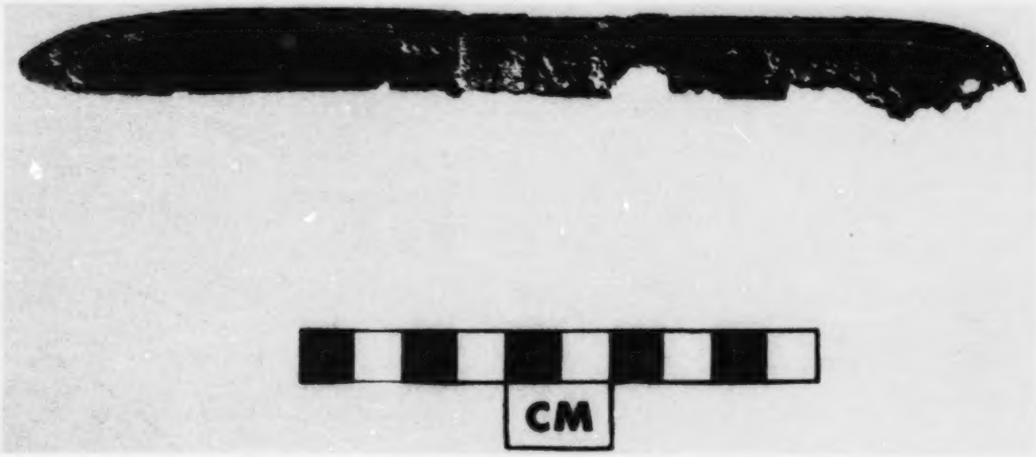
169 Gunflints: a, c, spall type; b, d, e, blade type.



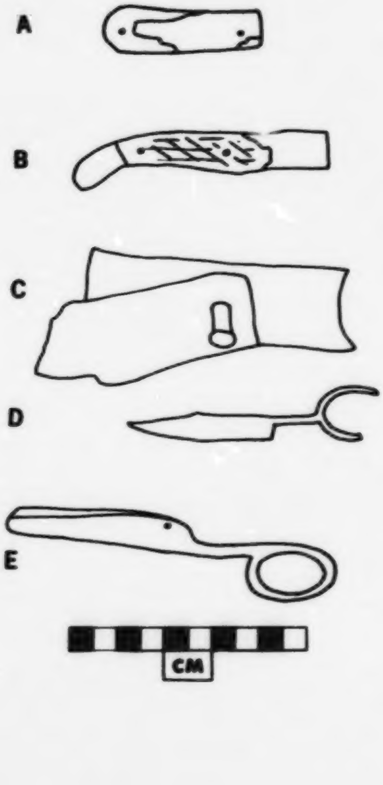
170 Fork.



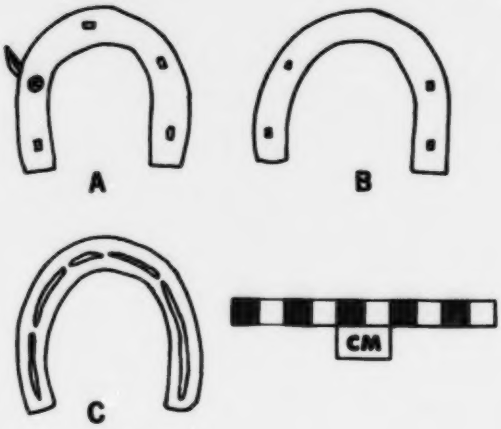
171 Miscellaneous utensils: a-c, forks; d-f, knives; g, makers' marks on fork handle.



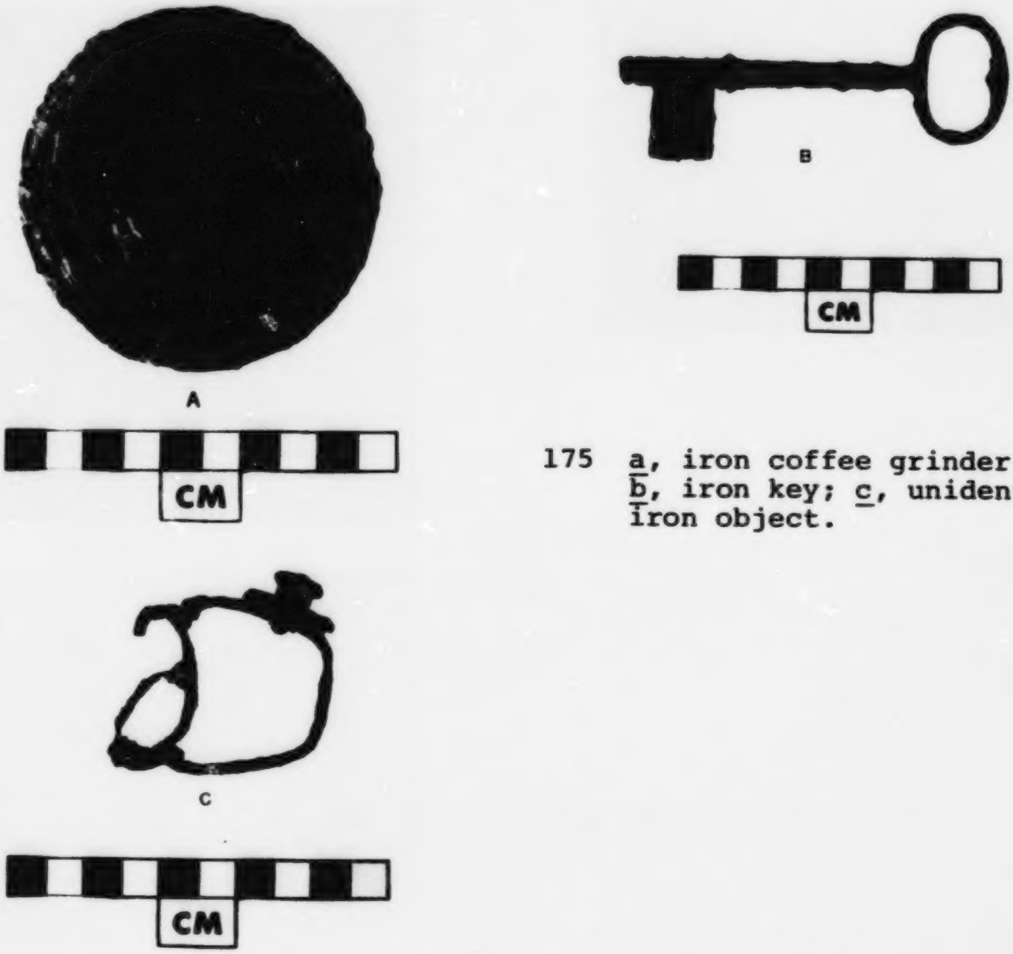
172 Iron knife with marker's mark T GILL stamped on blade.



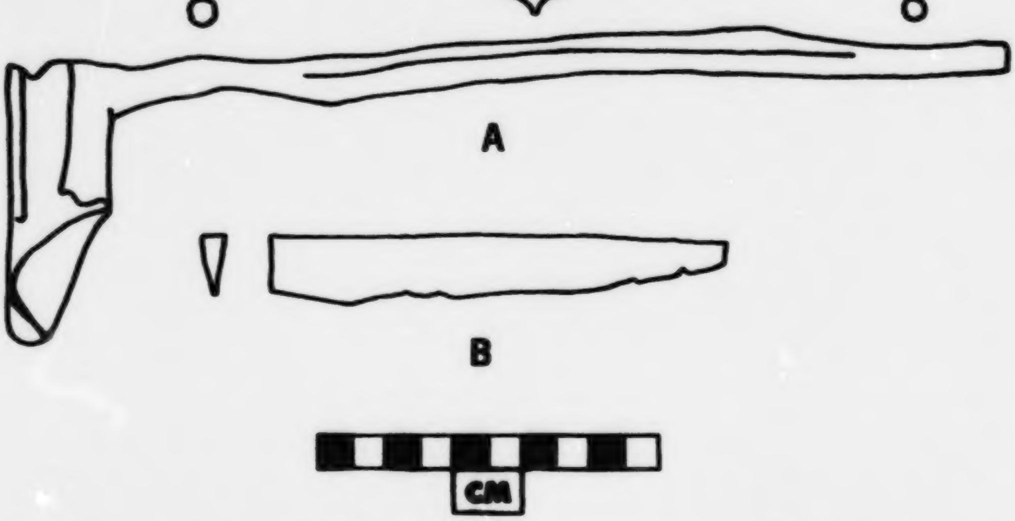
173 Miscellaneous implements: a, b, razors; c, hafting fragment, iron; d, e, scissors.



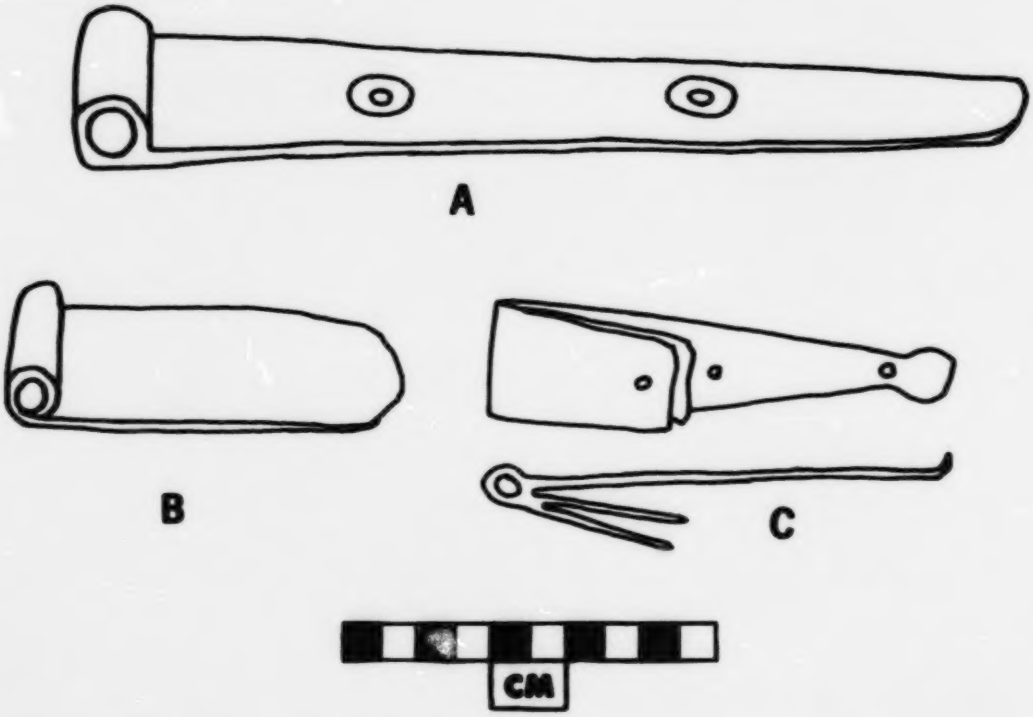
174 Iron boot cleats.



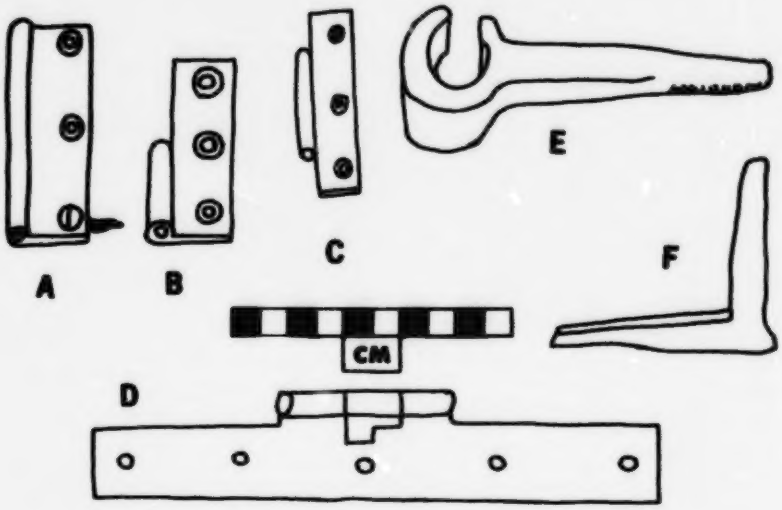
175 *a*, iron coffee grinder part; *b*, iron key; *c*, unidentified iron object.



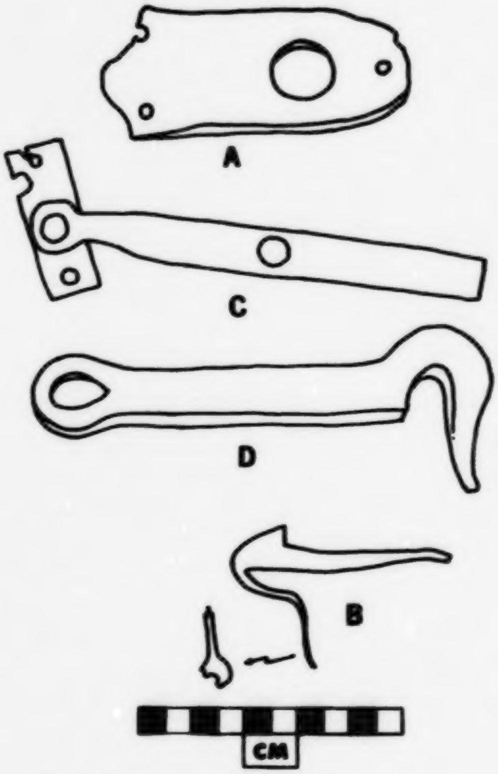
176 Swords and bayonettes: a, bayonette, bent, iron; b, iron sword blade fragment.



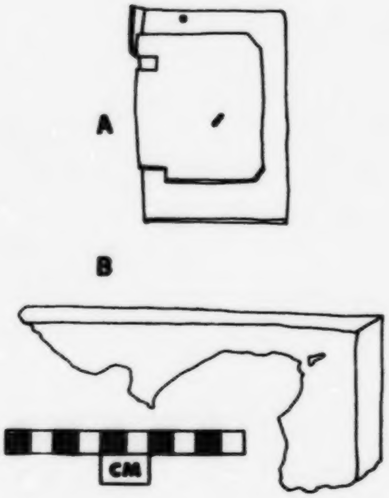
177 Hinges I: a-c, strap hinges, iron.



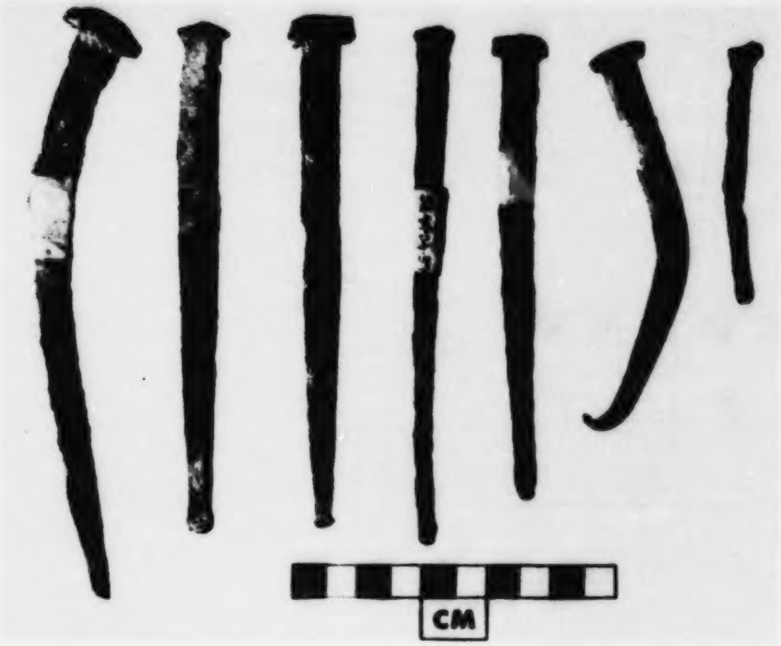
178 Hinges II: a-d, leaf hinges; e, gudgeon; f, pintle.



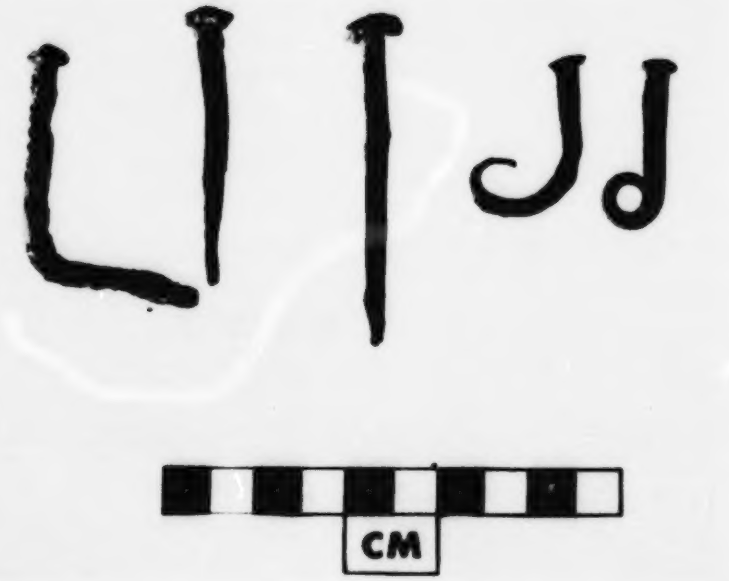
179 Latches: a, latch plate, iron;
b, catch; c, latch; d, hook.



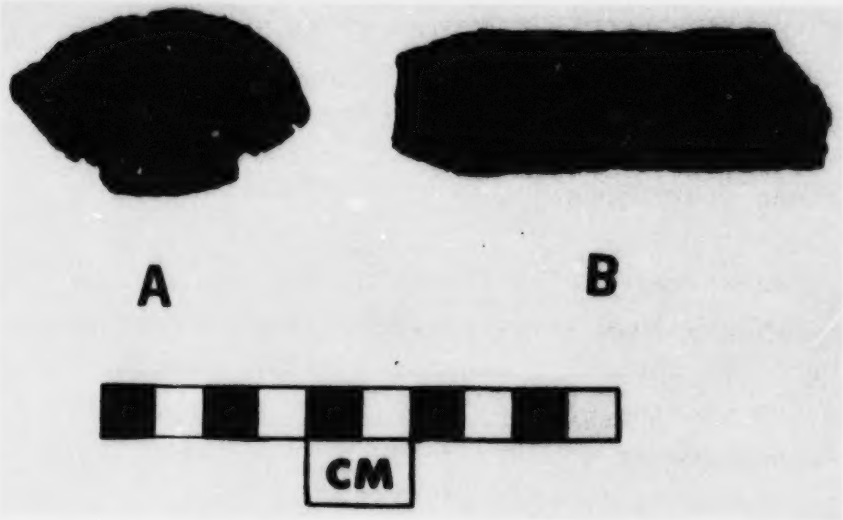
180 Locks: a, b, fragments of
iron locks.



181 Spikes.



182 Nails.



183 Leather objects: a, boot fragment; b, belt or strap.

184 Cloth.

185 Celt.

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